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SELF-REGULATED LEARNING AND ETHNIC/RACIAL VARIABLES:
PREDICTING MINORITY FIRST-GENERATION COLLEGE STUDENTS'

PERSISTENCE

BY

JOHN S. MOORE III

UNIVERSITY OF RHODE ISLAND

A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE

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IN

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SELF-REGULATED LEARNING AND ETHNIC/RACIAL VARIABLES:
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ABSTRACT

The purpose of this study was to investigate how self-regulated learning and ethnic/racial variables predict minority first-generation college student persistence and related constructs. Participants were drawn nationally from the U.S. Department of Education funded TRiO Student Support Services Programs. Additional participants from the Talent Development program and General Psychology classes from the University of Rhode Island were also included if they were first-generation college students. Preliminary analyses of group differences based on minority status revealed few significant differences in self-regulated learning, ethnic/racial, and college persistence variables. Hierarchical regression analyses indicated that academic self-efficacy, program use, and race rejection sensitivity were the strongest predictors of minority first-generation college students' persistence. Implications for practice, study limitations, and directions for future research are also discussed.

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INTRODUCTION

Statement of the Problem

In Western societies, there has been an extended history of suspicions, fears, and racial prejudice (Hogg & Abrams, 2007). The United States, in particular, has simultaneously upheld egalitarian values and racist traditions, thus causing a contradiction between societal justice and systemic discrimination which contributes to racial stratification. Since *Brown v Board of Education* and the civil rights legislation of the 1960s, the obvious form of prejudice in the United States has decreased tremendously. Nonetheless, discrimination and racial disparity still persist (Gaertner & Dovidio, 2005; Wright, & Taylor, 2007) and find their way into educational settings.

A variety of researchers have recognized that public education in the United States is threatened by the presence of ethnic and racial inequality. (Bell, 1984, 2004; Bernal, 2002; Fernandez, 2002; Ladson-Billings & Tate, 1995; Smith-Maddox & Solorzano, 2002; Steele, 1997; Yosso, Parker, Solorazano, & Lynn, 2004). These threats do not solely exist in K-12 settings, but they permeate into institutions of higher learning.

Many colleges and universities have created programs to improve post-secondary retention by establishing outreach relationships with public schools through providing disadvantaged and at-risk students with advising, academic support services, and mentoring/counseling to make campuses more welcoming (e.g., Ghazzawi & Jagannathan, 2011; Inkelas, Daver, Vogt, & Leonard, 2007; Ryken, 2006). Programs that have improved the enrollment of underrepresented

and disadvantaged students in post- secondary education have been dismantled or underfunded (Tierney & Jun, 2001) thus making a higher education less accessible for ethnic and racial minority students. It is hoped that findings from the present study will provide further insight about how to support underrepresented students with adapting to sometimes unwelcoming campus climates and to provide rationale for the continued existence of these programs.

Research focusing on academic success has recognized the importance of self-regulated learning and ethnic/racial variables for all students but especially for ethnic minority first-generation college students and their persistence. Findings from studies related to these constructs strongly suggest that these variables can serve as protective factors that enhance the probability of one's college persistence and reduce an individual's vulnerability to college attrition. There has been research conducted utilizing certain constructs as sources of self-regulated learning and ethnic/racial variables; however, there have not been many studies that have explored several constructs as sources of self-regulated learning, ethnic/racial variables, and their relationship to college persistence.

The purpose of this study is to explore the relationship of ethnic minority first-generation college students' self-regulated learning and ethnic/racial variables as predictors of college persistence. A deeper understanding of these variables and their influence on achievement can serve as the basis for the development of more effective prevention and intervention programs to assist ethnic minority students (Dianda, 2008) with college adjustment. Results from this kind of research may offer possible solutions to closing the educational

achievement gap between racial and ethnic minority first-generation college students and their white majority counterparts. In contrast to approaches that have emphasized assessment of students based on standardized testing, a more multiculturally sensitive paradigm is needed (American Psychological Association, 2002) based on protective factors such as self-regulated learning and ethnic/racial variables. Although most colleges and universities have a plan to increase the enrollment of underrepresented students, many institutions have placed their greatest effort on the recruitment and admission of this target group and less emphasis on creating and maintaining culturally sensitive, supportive services that increase the retention and graduation rates of these students.

LITERATURE REVIEW

Justification and Significance of the Study

Ethnic Minority college students continue to encounter subtle and modern forms of prejudice and racism which have helped to contribute to their lower rates of degree completion when compared to their European American counterparts. As a result, many of these students do not meet college admission standards and those that do enter college are underprepared first-generation college students who are at-risk for post-secondary education attrition. Studies focusing on academic achievement have acknowledged the importance of self-regulated learning and its constructs of regulatory appraisal (i.e., academic self-efficacy), mechanisms (e.g., planning, time management, learning strategies, use of services), and agents (i.e., achievement goals), and ethnic/racial variables (e.g., ethnic identity, race rejection sensitivity) for minority college students. The

aforementioned variables may serve as protective factors that can potentially reduce an individual's vulnerability to dropping out of college and provide additional insight for intervention programs that aim to assist underserved students.

College Persistence. In Tinto's (2006) research review he acknowledges that it has been challenging to make substantial gains in student retention. Despite several decades of studies, much remains unknown. Tinto suggests that more efforts must be made to translate research into practice. Despite the many efforts of colleges and universities to provide supportive services (e.g., Ghazzawi & Jagannathan, 2011; Inkelas, Daver, Vogt, & Leonard, 2007; Ryken, 2006) to improve the enrollment and retention of underrepresented and disadvantaged students in post-secondary education, many of these programs will cease to exist (Tierney & Jun, 2001). Quite frequently, the supports provided by institutions that are intended to improve student retention overtime are often not entirely implemented, or tend to disappear after the creator of such services have departed the institution. Programs that do endure often do not receive overall institutional support (Tinto, 2006), thus making a higher education less accessible for ethnic and racial minority students.

Tinto (2006) asserts that retention should be taken more seriously. Many who claim to be proponents of retention are unwilling to modify their practices to directly address the source of attrition issues. Some individuals try to diffuse their responsibility, believing that student retention should be someone else's concern. Others believe that if students had the necessary skills and motivation, or if the

institution did a better job at admitting qualified students, then retention problem would not exist (Dixson & Rousseau, 2005; Locke & Latham, 1990; Fernandez, 2002; Tinto, 2006; Yosso et al., 2004). Student retention is the job of all faculty and staff. A paradigm shift in post-secondary education is needed. College and university staff should be rewarded and recognized for their retention efforts (Tinto, 2006). First-generation college students, in particular, are at greatest risk of academic attrition (Ishitani, 2006; McCarron & Inkelas, 2006; Ramos-Sánchez & Nichols, 2007).

First-Generation College Students. Historically, underrepresented groups have made dramatic gains in college enrollment (Hrabowski III, 2007; Wells & Lynch, 2012). Most of these individuals tend to be first-generation college students (Pike, 2005). First-generation college students possess unique, yet challenging characteristics. Many of them have demonstrated a lack of academic engagement during high school (Ishitani, 2003, 2006; Pike, 2005; Reid & Moore III, 2008). This has been reflected by their high school transcripts which indicate that they are more likely to have lower grade point averages and that they enrolled in less rigorous courses (Ishitani, 2006; McCarron & Inkelas, 2006; Ramos-Sánchez & Nichols, 2007) that may have helped them with adequately developing the critical thinking skills that are necessary for performing well on standardized college entrance exams and post-secondary course work (Ishitani, 2003).

Ethnic minority first-generation college students in particular, may experience adversities such as teacher and peer expectations of their failure,

intergroup conflicts, racist policies and practices of educational institutions, and culturally insensitive curricula (Dixson & Rousseau, 2005; Fernandez, 2002).

Many students of color were probably once directed to vocational tracks in which very few were given the opportunity to take college preparatory course work during their high school years, and were instead prepared to enter into manual labor (Fernandez, 2002). These minority status stresses encountered during grades k-12 have impacted academic performance very early during their schooling. High school grades and SAT scores may be a reflection of the cumulative impact of chronic minority status stresses over time (Steele, 1997).

Many first-generation college students come from low socioeconomic family backgrounds (Bui, 2002; Ishitani, 2003, 2006; McCarron & Inkelas, 2006; Pike, 2005; Ramos-Sánchez & Nichols, 2007; Reid & Moore III, 2008). Furthermore, they may lack family support. Due to their parents having limited college experience, they may find themselves challenged because there is no one in their immediate family who can explain to them how they can successfully navigate their way through college (Lombardi, Murray, & Gerdes, 2012; McCarron & Inkelas, 2006; Parks-Yancy, 2012; Ramos-Sánchez & Nichols, 2007; Reid & Moore III, 2008). Some family members are against their loved one's desire to attend college entirely (Lombardi, Murray, & Gerdes, 2012; Ramos-Sánchez & Nichols, 2007; Reid & Moore III, 2008).

Unfortunately, disproportionately fewer first-generation college students will succeed with getting their bachelors degree (Pike, 2005; Reid & Moore III, 2008). They are more likely to have lower rates of persistence (Ishitani, 2006;

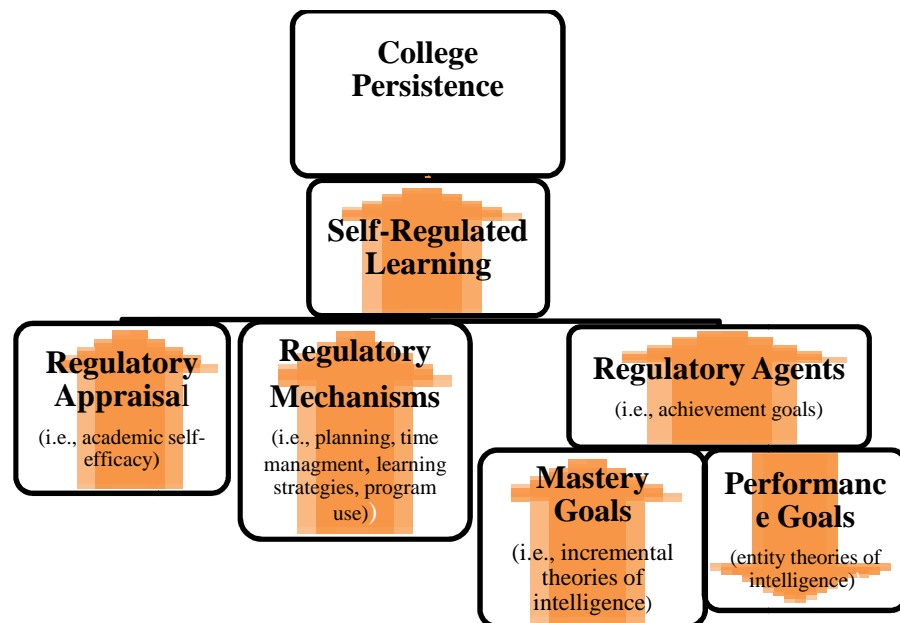
Pike, 2005) due to greater financial assistance needs and often having to work full-time jobs in order to fulfill their familial responsibilities as they study (Lombardi, Murray, & Gerdes, 2012; Lundberg, Schreiner, Hovaguimian, & Miller, 2007; Pascarella, Pierson, Wolniak, & Terenzini, 2004; Pike, 2005; Reid & Moore III, 2008; Zamani, 2000). Research conducted by Pascarella and colleagues utilized precollege controls (e.g., cognitive development, educational degree plans, parental income, high school grades) and found that first-generation college students completed fewer credit hours and had fewer interactions with peers in non-course contexts (Pascarella et al., 2004). Similar results were found by Ishitani (2003, 2006) and Pike (2005). These are just a few of the variables that place first-generation college students at greater academic risk for college attrition.

However, Nauman, Bandalos, and Gutkin (2003) reported that students that had more self-regulated learning due to increased beliefs about their goal, self-efficacy, and learning strategies performed better academically. Their study revealed that variables such as goal orientation and self-efficacy contribute to a more accurate prediction of first-generation college students' academic success when combined with standardized college admission exam scores. In fact, they found that when variables similar to goal orientation and self-efficacy were combined, they were able to account for a greater significant amount of GPA variance in comparison to American College Testing test (ACT) scores alone. Robbins and colleagues conducted a meta-analysis and found that academic self-

efficacy, specifically, is one of the strongest predictors of first-generation college students' post-secondary academic outcomes (Robbins, et al., 2004).

Self-Regulated Learning. Self-regulated learning has been known to support college persistence (Kue, 2010). Self-regulated learning is the extent in which learners are behaviorally, motivationally, and metacognitively engaged in the learning process (Schunk & Zimmeran, 1994). Pintrich and de Groot (1990) found that students who are cognitively engaged and self-regulating their learning are interested and welcome academic tasks. Furthermore, they found that self-regulation is a significant predictor of academic performance. Regulatory agents, mechanisms, and appraisals are constructs involved in self-regulated learning (Sitzmann & Ely, 2011). A proposed model of self-regulated learning can be seen in *Figure 1*.

Figure 1. Proposed self-regulated learning flow chart to college persistence



Regulatory agents. Goals are the sole regulatory agent (Sitzmann & Ely, 2011). They function as regulatory agents because they serve as criterion for monitoring, evaluating, and directing self-regulatory activity (Bandura, 1977; Sitzmann & Ely, 2011). Goals trigger action (Frese & Zapf, 1994; Sitzmann & Ely, 2011); they guide students' attention, increase persistence and effort, and lead to the utilization of appropriate task approaches. Goal setting and self-reflection are components of self-regulation that can present students the opportunity of perceptions of advancing in their learning which can promote mastery experiences (Bong & Skaalvik, 2003; Sitzman & Ely, 2011; Van Dinther et al., 2011). Regulatory agents can best be exemplified by achievement goal orientations.

Achievement goal orientations have been used to explain one's achievement motivation, how people differ in their pursuit of success. Elliot and McGregor (2001) produced the seminal research model of achievement goals consisting of two factors and four goal orientations (see Table 1).

Table 1

A 2x2 Achievement Goal Framework

Mastery Approach: Intrinsically motivated, lifelong learners, focused on competence and success, incremental theory of intelligence	Mastery Avoidance: Intrinsically motivated, lifelong learners, focused on competence, fear failure, incremental theory of intelligence
Performance Approach: extrinsically motivated, norm focused, competing for grades and class ranking, striving toward success, entity theory of intelligence	Performance Avoidance: extrinsically motivated, norm focused, competing for grades, and class ranking, fear of failure may prevent growth and learning, entity theory of intelligence

There is a widespread consensus regarding the benefits of possessing mastery goal orientations (Elliot & McGregor, 2001; Senko & Harackiewicz, 2005; Urdan & Mestas, 2006; Witkow & Fuligini, 2007). Individuals possessing mastery goals tend to be focused on self-improvement (Cury et al., 2002). Trope (1980, 1982, 1986) explains that individuals who are interested in self-improvement desire to expand their abilities. This desire is essential for those who are in pursuit of mastery (Cury et al., 2002). During this process of self-improvement, people are more likely to place constraints on protecting their ego because they are looking for honest feedback that will assist them in achieving their goals, therefore, they will choose to engage in tasks that provide them with diagnostic information (Trope, 1980, 1982, 1986).

Darnon and colleagues conducted a pilot study with college professors in order to assess which achievement goals they found to be more socially desirable. The Professors selected mastery goals because they prefer that their students be able to demonstrate mastery of the course materials that they teach (Darnon et al, 2009). This suggests that if students want to leave a positive impression on their professors then they should exhibit mastery goal orientations. Senko and Harackiewicz (2005) Study 1 and Harackiewicz et al. (1997) found that mastery goal orientations predict interest in a specific topic or task. Students who have an interest in a topic or subject will make efforts to demonstrate deep processing of material (Elliot & McGregor, 2001) through integrating new and previous knowledge and applying theoretical ideas to their daily lives in order to understand major themes. In addition, Elliot and McGregor (2001) found that

having a mastery goal orientation was positively correlated with multiple choice, essay, and overall exam performance.

Elliot and McGregor (2001) established that having a performance-approach orientation was positively correlated with multiple choice, essay, and overall exam performance as well. Darnon et al. (2009) posited that having a performance-approach orientation has social utility for college students. In order for college students to maintain good standing with their college or university, they are expected to meet normative criteria by competing for class ranking and earning high GPAs. If a student is able to earn a high GPA they will be allowed to continue to matriculate in their selected program without having to worry about possibly being dismissed from their university or college.

There are several benefits to possessing a performance-approach orientation. Karabenick (2003) assessed students for levels of help-seeking threat and found that students with performance-approach orientations were more likely to seek formal help from tutors or their professors when they were experiencing challenges in their course work. Senko and Harackiewicz (2005) Study 2 demonstrated that students who endorsed performance-approach goals and were asked to rate how well they expected to perform on a new math task found that participants with this orientation were able to accurately predict their success with utilizing a new method for multiplying two digit numbers. Elliot, Shell, Henry, and Maier (2005) also had similar findings with German students that had performance goal orientations. They found that possessing a performance-

approach goal orientation was the strongest predictor of their performance on the math subtest of an intelligence scale.

However, having a performance-approach achievement goal orientation can be detrimental to the likelihood of a college student's retention. There are some costs to having a performance-approach orientation. Although performance-approach goals tend to have a greater positive effect on performance than mastery goals, this outcome is dependent on contingency. When individuals with performance-approach orientations were informed that they would not receive a reward, their goal orientation was less predictive of their performance, relative to individuals who had mastery goals (Elliot, Shell, Henry, & Maier, 2005). Elliot and colleagues (Cury, Elliot, Da Fonseca, & Moller, 2006; Elliot & McGregor, 2001; Elliot, Shell, Henry, & Maier, 2005) found that performance-approach goals do not correlate with interest. Individuals who lack interest in a given topic or subject may be inclined to use surface processing (Elliot & McGregor, 2001) and utilize superficial study strategies such as rote memorization.

Brophy (2005) suggests that students possessing performance-approach goal orientations may be more concerned about their social status. Levy, Kaplan, and Patrick (2004) found that students who had performance-approach and performance-avoidance orientations evaluated cooperation based on its implications for social status. They established that students with performance-approach and performance-avoidance orientations preferred to cooperate with peers in their in-group. Therefore, students with performance goal orientations

may be unwilling to work in groups comprised of struggling students who might jeopardize their class ranking. It is expected that individuals with performance-approach orientations would be less likely to desire engaging in collaborative learning communities (Brophy, 2005) with out-group members and would gravitate more toward working with their in-group members, individuals who demonstrate similar skill levels. Moreover, individuals with performance goal orientations frequently engage in social comparisons during a task, which can be cognitively distracting (Brophy, 2005).

Most importantly, researchers suggest that performance-goal orientations may be adaptive only momentarily because an initial experience with failure or negative competence feedback may cause a shift from performance-approach goals to performance-avoidance goals (Brophy, 2005). Middleton, Kaplan, and Midgely (2004) demonstrated that the performance-approach/performance-avoidance shift does actually occur. Senko and Harackewicz (2005) conducted a study to examine if this phenomenon would be replicated for college students. In Study 1, they found that goal pursuit remained primarily stable throughout the semester. However, poor exam performance predicted a significant decrease in mastery goal and performance-approach goal pursuit and an increase in performance-avoidance orientation. It is this specific maladaptive aspect of performance-approach goals that should be of primary concern for educators. Furthermore, performance avoidance is negatively correlated with multiple choice, essay and overall exam scores (Elliot & McGregor, 2001) and less correlated with end of the semester GPA.

Research has also shown that achievement goal orientations have been associated with specific implicit theories of intelligence. Students who possess mastery goal orientations tend to have incremental theories of intelligence while those who possess performance goal orientations have entity theories of intelligence. The implicit theory of intelligence that one possesses is associated with the various ways individuals will approach achievement situations (Dweck, 1999; Kue, 2010). Dweck (1999) asserts that incremental theorists believe their intelligence is flexible, that they can increase their intelligence through subscribing to learning goals that will assist them in developing their skills so that they may achieve mastery. Incremental theorists are more inclined to increase effort, execute more problem solving strategies that are effective, and gain increased levels of positive affect.

In contrast, entity theorists believe that their intelligence is fixed and they tend to subscribe to performance goals which are motivated by their desire to demonstrate their skills while seeking the approval of others and avoiding negative evaluations of their ability (Dweck, 1999). They are also susceptible to feelings of helplessness and more likely to disengage from tasks that they suspect may demonstrate their limited ability. Furthermore, they are more likely to undergo negative affect. In response to the threat of failure, individuals who possess an entity theory of intelligence tend to lack persistence during times of academic adversity. Rhodewalt and colleagues (Rhodewalt, Morf, Hazlett, & Fairfield, 1991) found that entity theorists at the college level have overall maladaptive responses of helplessness and self-handicapping. Entity theorists

tend to maintain their maladaptive helpless responses even when they are performing well. Dweck and colleagues assert that entity theorist over emphasize their failure while ignoring their successes, thus the helpless response pattern persists (Dweck et al., 1995) and individuals with entity theories of intelligence are probably less likely to use and trust campus resources.

Regulatory mechanisms: learning strategies and use of campus services.

Churchill and Iwai (1981) assert that use of campus resources such as library, academic advisement, career services, counseling services, and recreation facilities represents a student's identification with their college community. Research has demonstrated that college persistence is positively correlated with many aspects of campus life such as the use of counseling programs (Kue, 2010; Rubin & Cohen, 1974), use of library and extracurricular services (Kue, 2010), and widespread use of various campus services (Churchill & Iwai, 1981; Kue, 2010). Students who infrequently use these resources are less likely to persist in college. Churchill and Iwai (1981) found that limited use of campus services is negatively correlated with college persistence, especially for students who have lower GPAs. Students that used these services the least had a greater probability of dropping out from college.

For ethnic minorities in particular, their use of campus services is dependent on whether they trust the individuals providing the services (Kue, 2010; Smith, Tyler, Huo, Ortiz, & Lind, 1998; Zimmerman, 1994) and that those holding influential positions have their best interests at heart (Kue, 2010; Smith et al., 1998). Being a member of an underrepresented group can lead students to be

skeptical of educators and institutions, due to previous negative encounters they have had in the past (Kue, 2010; Schunk & Zimmerman, 1994). Museus, Nichols, and Lambert (2008) found that African American students were the most unsatisfied with their campus climate, followed by Asian and Latino American students. First-generation college students tend to have similar experiences since many of them are from ethnic minority backgrounds.

Regulatory appraisals: self-efficacy. According to Bandura (1977; 1994) self-efficacy refers to a person's beliefs in their capabilities to respond effectively and produce desired outcomes in various situational conditions. Self-efficacy, specifically academic self-efficacy, is established through a developmental process. Schunk's work has demonstrated that a student's academic self-efficacy develops from their academic achievement history and overall school experiences. Academic self-efficacy is enhanced when students learn from cognitive models and are given the opportunity to practice the strategies they were taught (Schunk, 1981, 1985; 1989).

A growing body of literature has demonstrated clear connections between self-efficacy beliefs and academic performance in a number of specific academic domains (Schunk, 1985; 1989; Usher & Pajares, 2008a). College students possessing academic self-efficacy have been described as proactive agents (Gore, 2006; Lombardi, Murray, & Gerdes, 2012; Usher & Pajares, 2008b) in pursuit of developing their academic present and future. They are capable of regulating their learning by organizing their work, seeking assistance when needed, managing time, and implementing effective work strategies (Gore, 2006; Usher &

Pajares, 2008b). In addition, these students are able to manage academic stressors, enhance cognitive competencies, and attain achievement (Bassi, Steca, Fave, & Caprara, 2007; Ramos-Sánchez & Nichols, 2007) while acting as self-regulating agents in their psychosocial development (Bandura, Pastorelli, Barbaranelli, & Caprara, 1999).

Students with self-efficacy believe that they are capable of producing desired effects through their actions (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). This belief influences goal choice, their level of commitment for achieving specified goals, the manner in which analytic and strategic thinking are applied, and the level of motivation and perseverance exhibited when faced with adversity, how they attribute their successes and failures, in addition to their vulnerability to depression and stress (Bandura, 1995; 1997; Locke & Latham, 1990; Maddux, 1995; Zimmerman & Schunk, 1989).

Modern Forms of Racism and Ethnic Identity. American colleges and universities have become truly diverse. Due to this shift in demographics, educators need a strong understanding of the distinctions in beliefs and backgrounds of their students (Reid & Moore III, 2008). Unfortunately, administrators, faculty, and staff that utilize a color blind rationale are attempting to be objective and race neutral. Despite such efforts, race-based assumptions are still made and utilized to generate race-based conclusions (Dixson & Rousseau, 2005; Lopez, 2003; Yosso et al, 2004). At the college and university level, this rationale is exhibited by university staff who claim that all students in the United States compete for college admission on a fair playing field (Dixson & Rousseau,

2005; Locke & Latham, 1990; Fernandez, 2002; Yosso et al., 2004). Those who maintain such mindsets recall history inaccurately, ignore past and current racism against people of color, do not acknowledge the obviously unjust, and they disregard the unwelcoming racial climates that students of color may face at the college level (Dixson & Rousseau, 2005; Lopez, 2003; Yosso et al., 2004). These individuals are likely to engage in subtle and modern forms of prejudice and racism.

These subtle and modern forms of prejudice and racism are evident in displays of aversive racism (Hogg & Abrams, 2007; Gaertner & Dovidio, 2005), microaggressions (Fernandez, 2002; Gaertner & Dovidio, 2005; Lopez, 2003; Sue & Sue, 2008; Sue et al., 2007; Yosso et al., 2004) and stereotype threat (Steele, 1997; Steele & Aronson, 1995; Wright, & Taylor, 2007; Wout, Shih, Jackson, & Sellers, 2009). Students of color are highly aware of aversive racism and microaggressions in regards to their intellectual ability because stereotypes and prejudice have helped to form their cultural knowledge (Steele & Aronson, 1995; Wright, & Taylor, 2007). If they sense that there is potential for them to encounter the negative phenomena of aversive racism and microaggressions, they will often succumb to stereotype threat (Wout, Shih, Jackson, & Sellers, 2009).

Aversive racism. Aversive racism occurs when egalitarians cannot admit that they have some racist ways and attempt to avoid acting in a racist manner (Gaertner & Dovidio, 2005; Hogg & Abrams, 2007; Wright & Taylor, 2007). Aversive racist sympathize with those harmed by past injustices, support racial equity, and consider themselves to be nonprejudiced, however, they possess

potentially unconscious negative attitudes and beliefs. These subtle forms of racist attitudes tend to be possessed by the highest educated and most liberal members of our society. These individuals attempt to avoid having negative thoughts and feelings toward minorities (Gaertner & Dovidio, 2005; Wright, & Taylor, 2007).

Nonetheless, aversive racists discriminate when they can justify or rationalize their negative behavior based on factors besides race because doing so would allow them to maintain a nonprejudice self-image (Gaertner & Dovidio, 2005; Wright & Talyor, 2007). An example of aversive racism occurring in an educational setting is when a faculty or staff member is less likely to reply to an African American student's email request for help in mathematics than they would a European American student because they subscribe to the stereotype of African Americans being intellectually inferior. They believe the African American student will probably fail the course regardless so making efforts to assist them would go in vain.

Aversive racism is widespread and can have an enormous impact on the lives of its victims. It contributes to the maintenance of disparities. It can be difficult for minority students to interpret mixed messages conveyed by aversive racist during interracial interactions. Due to the conflicting messages, minority students may tend to be anxious, guarded, and mistrusting during interracial interactions (Gaertner & Dovidio, 2005). The African American student may be uncertain of why the professor or instructor did not reply to their email. They may wonder if the professor or instructor was busy or if they are racist. Due to

aversive racist being anxious during interactions with minority students, they may be less aware of how their negative behavior is influenced by stereotypes of these groups and consequently engage in microaggressions.

Microaggressions. University students of color continue to report being exposed to instances of racial aggression in social and academic campus settings (Lopez, 2003; Yosso et al., 2004). Students of color encounter subtle verbal and nonverbal insults which occur automatically or unconsciously. Such racial slights assume inferiority due to race, gender, sexuality, language, accent, surname, immigration status, and phenotype (Fernandez, 2002; Gaertner & Dovidio, 2005; Sue & Sue, 2008; Sue et al., 2007; Yosso et al., 2004). Microaggressions come in three forms, microassaults, microinsults, and microinvalidations.

Microassaults are explicit racial derogations indicated fundamentally by a verbal or nonverbal attack aimed at hurting the intended target through name calling, avoidant behavior, or intentional discriminatory actions (Sue & Sue, 2008; Sue et al., 2007). Examples include calling a Latino American a Spic or purposefully attending to a European American student before a student of color who already raised their hand.

Microinsults occur when communication about one's racial or ethnic identity has a tone of rudeness, apathy, and condescension. An example of this would be a college faculty or staff member saying that the most qualified students should be admitted into the university, regardless of race (Sue & Sue, 2008; Sue et al., 2007). Based on a statement of this caliber, it is implied that the faculty or

staff member believes that people of color are not qualified to be admitted into college.

Microinvalidations are communications characterized by their disregard for the psychological thoughts, emotions, or realities of culturally and linguistically diverse people (Sue & Sue, 2008; Sue et al., 2007). An example of a microinvalidation is when a European American faculty member or staff person compliments an African American student for sounding well educated when they speak. This implies that African Americans that do not speak Standard English are less intelligent. Culturally and linguistically diverse individuals encounter these microaggressions frequently throughout their daily routines (Sue & Sue, 2008). The accumulation of continuous encounters with racial aggression leads to students of color experiencing unnecessary stress (Fernandez, 2002; Gaertner & Dovidio, 2005, 2005; Sue & Sue, 2007; Yosso et al., 2004).

Stereotype threat. Steele and colleagues (Steele & Aronson, 1995; Steele, 1998; Steele, Spencer & Aronson, 2002) have demonstrated how the subtlety and the magnitude of stereotypes can affect the targets of negative stereotypes (Wright, & Taylor, 2007). Furthermore, it is highly probable that contextual cues strengthen the target's concern that stereotyping is imminent and will increase such threats (Steele, 1997; Steele et al., 2002; Wout, Shih, Jackson, & Sellers, 2009; Wright, & Taylor, 2007).

Stereotype threat is triggered simply by the recognition that a negative group stereotype could apply to oneself in a specific setting (Steele, 1997; Steele et al., 2002; Wout et al., 2009; Wright, & Taylor, 2007). One does not need to

believe that the stereotype applies to them in order for it to have a negative effect (Steele, 1997; Walton & Cohen, 2007; Wout et al., 2009). The extent of the situational threat is contingent on the individual's identification with the stereotype relevant domain (e.g., education). Individuals that identify with the domain will find context relevant stereotypes threatening because it impairs their performance in a personalized domain. Those who identify less with a domain are least likely to be threatened by the stereotype because it is related to something they are not as concerned about. Stereotype threat frequently affects those students who are the most confident about their academic abilities and have not internalized the group stereotype to the extent in which they are skeptical of their skills and have not continued to identify with the domain (Steele, 1997).

During times in which ethnic minority and female students are being evaluated for their academic performance, anxiety is elicited because they believe that they may be treated based on negative stereotypes about their intelligence or that they might confirm these stereotypes. This arousal of anxiety can impair their performance on important tasks; therefore, those threatened by stereotypes perform more poorly on task, perhaps confirming the stereotyped expectation. Members of disadvantaged groups encounter stereotype threat more frequently due to the numerous negative stereotypes against their groups. In addition the probability of stereotype threat is heightened when performance criteria is quite demanding, such as a testing situation (Steele, 1997; Wright, & Taylor, 2007).

Due to the numerical distinctiveness of ethnically diverse students at college campuses, it is no surprise that throughout their daily school routines they

will be frequently reminded of their minority status and question their intellectual ability (Steele, 1997; Walton & Cohen, 2007). Students are consequently encountering numerous threatening experiences (Wright, & Taylor, 2007) such as aversive racism, microaggressions, and stereotypes and may doubt whether they belong at institutions of higher learning. Members of stigmatized groups are more doubtful of the quality of their social bonds and are more vulnerable to issues of social belonging (Mendoza-Denton, Page-Gould, & Tropp, 2008; Walton & Cohen, 2007). Such adversities have been known to lead to racial disparities in achievement (Walton & Cohen, 2007).

Ethnic identity. Yosso and colleagues (Yosso et al., 2004) report that students have expressed that their universities tend to not follow through with their efforts to improve diversity; thus campus settings continue to remain hostile and unwelcoming because students of color continue to be perceived as unintelligent and taking the place of more academically qualified European Americans (Dixson & Rousseau, 2005; Yosso et al., 2004). However, ethnic identity may be a protective factor for students who have these negative encounters. According to Phinney (1992), ethnic identity is a complex process that requires the integration of values and beliefs of the dominant culture with the beliefs and traditions of one's ethnic group. Ethnic identity is based upon how minority, majority, or ethnic group members perceive positive and negative contact with members of in-groups and out-groups (Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Ontai-Grzebik & Raffaelli, 2004; Utsey, Chae, Brown, & Kelly, 2002).

Research has continued to support the presence of significant positive correlations between ethnic identity and self-esteem for Latino Americans, African Americans, and European American high school (Worrell, 2007) and college students (e.g., Gonzalez, 2009; Phinney, 1992). Further research has also supported the relationship between strong ethnic identities due to affirmations of an individual's ethnic group to feelings of empowerment which increases the likelihood of academic success (e.g., Bergin & Cooks, 2002; Oyserman, Kemmelmeier, Fryberg, Brosh, & Hart-Johnson, 2003).

Mendoza et al. (2008) suggests that it is more beneficial to have a dual identity, one that embraces the superordinate identity of academic success without relinquishing one's ethnic identity. They found that African American students who had high ethnic identity and high race rejection sensitivity had reduced institutional identification; however, students with high ethnic identity and low race-rejection sensitivity had more intentions to stay in college. Similar results were found in Cokely and Chapman's (2007) study with African Americans. Analyses demonstrated that ethnic identity indirectly predicts GPAs through its positive relationship with academic self-concept which is positively correlated with academic achievement.

In marked contrast, studies conducted by Sellers and colleagues (Sellers, Chavous, & Cooke, 1998), Johnson and associates (Johnson & Arbona, 2006), and Castillo et al. (2006) have found negative relationships between ethnic identity and academic achievement for college students. Sellers, Chavous, and Cooke (1998) found that African American college students that rated their race

as central to their identity had a negative association with GPA. Johnson and Arbona (2006) found that ethnic identity was not a moderator for race related stress among African American college students. Furthermore, Castillo et al. (2006) found that Latino American college students that had negative perceptions of their university and endorsed high ratings ethnic identity were less committed to completing college.

Summary

In summary, first-generation college students face a variety of psychological, sociological, and educational barriers that place them in great risk of post-secondary attrition. Self-regulated learning has been recognized as a significant predictor of first-generation college student academic achievement than standardized college entrance exam scores. Achievement goals are comprised of mastery goal orientations (mastery-approach and mastery-avoidance) and performance goal orientations (performance-approach and performance-avoidance). Mastery goals have more positive correlations with higher GPAs and adaptability relative to performance goals. Academic self-efficacy is one's ability to produce academic outcomes throughout various situations. Academically self-efficacious students are proactive, organized, efficient workers, goal driven and adaptive.

Ethnic identity is a component of one's self-concept that is formed during a complex process indicated by the integration of the dominant group and one's ethnic group's beliefs and values. It has been positively correlated with self-esteem, empowerment, and academic achievement. Although there is

considerable research on mastery goals, academic self-efficacy, and ethnic identity, there is limited work that has incorporated all of these variables and their constructs to show how their interrelationship with college persistence. Given their interrelated aspects, they may function differently, particularly among various first-generation college students from diverse ethnicities and races.

Hypotheses

Based on the literature review provided, the following hypotheses were constructed to help determine which self-regulated learning and ethnic/racial constructs would be the best predictors of college persistence and its related variables:

- H1. There will be no significant differences between minority and majority first-generation college students on college persistence.
- H2. Academic self-efficacy will be a greater positive predictor of college persistence than program use and ethnic identity.
- H3. Mastery goals will be a greater positive predictor of college persistence than program use and ethnic identity.
- H4. Performance goals will be a greater negative predictor of college persistence than program use and ethnic identity.
- H5. Academic self-efficacy will be a greater positive predictor of college persistence than program use and race-rejection sensitivity.
- H6. Mastery goals will be a greater positive predictor of college persistence than program use and race-rejection sensitivity.
- H7. Performance goals will be a greater negative predictor of college persistence than program use and race-rejection sensitivity.

- H8. Students who have high ethnic identification and high race-rejection sensitivity will have reduced institutional identification.
- H9. Students with high ethnic identification and low race-rejection sensitivity will have greater intentions to stay in school.
- H10. Students with high ethnic identity and low race-rejection sensitivity will have greater college persistence.

METHODS

Participants

A total of 293 first-generation college students voluntarily participated in this study by completing an online survey. The sample consisted of students from two groups: 260 students who were enrolled in TRiO Student Support Services (SSS) from colleges throughout the United States and 31 students taking part in the Talent Development (TD) program and a General Psychology (Psy 113) course at the University of Rhode Island (URI). Of these students 179 students were minority student and 114 students were non-minority students. There were 228 females and 72 males within the sample.

Recruitment and Procedures

Students were recruited after receiving a forwarded email from their program coordinators/directors or instructors that described the nature of the study and requested that students complete a series of surveys by clicking on a link to Survey Monkey. The link to Survey Monkey allowed program participants and

students to complete a consent form and questionnaire items. Consent forms and questionnaire items can be found in Appendices B and C-E respectively.

SSS programs are federally funded by the U.S. Department of Education so that they may serve first-generation college students from disadvantaged backgrounds during their pursuit of postsecondary education by increasing their college retention through providing financial aid assistance and tutoring in a variety of subject areas (e.g., study skills, writing, reading, science, math) (“Student Support Services Program,” 2011). An invitation requesting SSS participation was sent to 800 program coordinators and directors.

URI’s TD is a program that is similar to SSS; it too aims to assist historically oppressed and disadvantaged students, but functions only in RI to support in-state students by promoting retention through their academic and admissions support programs. Psy 113 is an introductory survey course of the major facts and principles of human behavior and is a general education requirement for URI students. From the overall sample of students responding to the invitation, a subsample of first-generation college students was constructed to address the specific questions of this study. Participation in the online study was voluntary and anonymous.

Upon completion of the online survey, participants were encouraged to print screen the completion page of the online survey, write their names on it, and submit it to their program director, counselor, or instructor so that they may be entered into a raffle for winning a \$25 Amazon gift card. The program

coordinator, counselor, or instructor was asked to draw a winner. Research was conducted in compliance with URI's Institutional Review Board's guidelines.

Design and Measures

A correlational design was utilized for this study. Descriptive methods were used for considering the relationship among self-regulated learning and ethnic/racial identity variables to predict the college persistence of minority first-generation college students. The demographic questionnaire and measures of the variables of interest are described below. Modifications made to the Likert rating scales of the questionnaires were made to facilitate their use and understanding by participants. Quina and colleagues have found that such modifications consequently have limited effects on the measures' psychometric properties (Quina et al., 1999). In addition, the elimination of mid-points in Likert scales reduces the influence of social desirability on the rating of questionnaire items (Garland, 1991).

Demographic Questionnaire The Demographic Questionnaire consists of 14 items designed to obtain demographic information including program participation or course enrollment, full/part-time status college and university attendance, sex/gender, age, years enrolled in school, pursuit of a degree, race/ethnicity, and other information such as parents' highest educational level and family income, employment and parental statuses. The demographics questionnaire and survey measures can be found in Appendices D and E.

Measures. *Achievement Goal Questionnaire* (AGQ) (Elliot & McGregor, 2001) was used to gather data for the independent variables, mastery goals and performance goals. This 12-item questionnaire measured one's achievement goals based upon four goal orientations, mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance. The AGQ measures the mastery-approach orientation to assess an individual's competence and willingness to approach challenges. A seven-point Likert rating scale which was modified to a four point Likert rating scale was used for this particular study (1 = not at all true to me, 2 = not true to me, 3 = true to me, and 4 = very true to me). Three items. An example of a sample item included, "I want to learn as much as possible from this class." The mastery-avoidance orientation was measured by three items that assessed an individual's competence and their willingness to avoid challenges. An example of a sample item included, "I worry that I may not learn all that I possibly could in this class." The performance-approach orientation was also measured by three items that assess an individual's feelings of lacking competence and willingness to approach challenges. An example of a sample item included, "It is important for me to understand the content of this course as thoroughly as possible." The performance-avoidance orientation was measured by three items and assesses an individual's feelings of lacking competence and willingness to avoid challenges. An example of a sample item included, "I just want to avoid doing poorly in this class." All items had alpha reliability coefficients ranging between .74 and .93 (Elliot & McGregor, 2001). Reliability was reanalyzed because of the altering of Likert scaling and totaling

of performance and mastery goals. Performance goals had a reliability coefficient of .71, while mastery goals had a reliability coefficient of .64. All Mastery goal scores and all performance goal scores were each totaled to create two separate scaled scores. Mastery goals and performance goal scores range from 6-24 (see Appendix D).

The *Multidimensional Scales of Perceived Self-Efficacy* (MSPE) instrument (Bandura, 1990) was used to measure one of the independent variables, academic self-efficacy. The MSPE measures various dimensions of perceived self-efficacy represented by nine subscales with a total of 57 items using a seven-point Likert rating scale (1 = not well at all to 7 = very well). For the purposes of this study, only 19 items from the two most relevant subscales, Academic Achievement and Self-Regulated Learning were selected. The MSPE academic achievement self-efficacy subscale consisted of eight items to evaluate participants' beliefs in their efficacy to succeed on academic activities. An example of a sample item included, "How well can you learn general mathematics?" Eleven items comprising the self-regulated learning self-efficacy subscale measured how well participants can control their learning activities when there are other interesting activities as a distraction. An example of a sample item included, "How well can you study when there are other interesting things to do?" (see Appendix D). Each subscale had alpha coefficients of .86 and .72 respectively (Bandura, 1990). In addition to using only two scales, the item response format was modified from a seven-point rating scale to a four-point Likert rating scale (1= not well at all, 2 = not well, 3 = well, 4 = very well) in

performing an activity. The rating scale was modified so that it could be consistent with the *Multiethnic Identity Measure* rating scale. Academic achievement self-efficacy and self-regulated learning self-efficacy subscale scores were added together to produce one overall academic self-efficacy scaled score. Reliability was reanalyzed because of altering of Likert scaling and totaling academic achievement self-efficacy and self-regulated learning self-efficacy to create one scale score for academic self-efficacy. A reliability coefficient of .81 was obtained. Academic self-efficacy scores range from 19-76 (see Appendix D).

The *Multigroup Ethnic Identity Measure* (MEIM) instrument (Phinney, 1992) is comprised of 14 items that measure the second independent variable, ethnic identity, using a 4-point Likert rating scale (1 = strongly disagree; 2 = agree, 3 = disagree, 4 = strongly agree). Subscales included affirmation and belonging (six items) and ethnic identity achievement (eight items). A sample item for affirmation and belonging included, "I am happy that I am a member of the group I belong in." A sample item for ethnic identity achievement included, "I have spent time trying to find out more about my ethnic group such as history, traditions, and customs." Reliability, in general, was assessed with alphas ranging from .81 to .90 (Phinney, 1992). Items are worded both negatively and positively. Affirmation and belonging and ethnic identity achievement subscale scores were added together to contribute to one overall ethnic identity scaled score. Ethnic identity scores range from 14-56 (see Appendix D).

Program Service Use: An eight item questionnaire was developed for this study to evaluate the student's use of academic support, counseling, mentoring and housing services typically provided by SSS programs. The survey used a 4-point Likert rating scale (1 = never; 2 = rarely, 3 = sometimes, 4 = frequently). Sample items include, "I receive academic tutoring.", "I receive advice and assistance with course selection.", "I receive personal counseling.", "I interact with my mentor." The questionnaire's reliability was .75. Program service use scores range from 7-28 (see Appendix D).

Race rejection sensitivity Questionnaire: Ten out of the twelve scenarios were used to assess anxious expectations of race-based rejection (Mendoza-Denton et al., 2008). A sample item is "Imagine you have just finished shopping, and you are leaving the store carrying several bags. It's closing time, and several people are filing out of the store at once. Suddenly, the alarm begins to sound, and a security guard comes over to investigate." Using a 6-point scale, respondents will be asked to indicate for each scenario (a) how concerned or anxious they would feel about the possibility of being rejected because of their race/ethnicity and (b) their expectation of rejection actually occurring. Likert rating scale was modified to a four point Likert rating scale for the use of this particular study (1 = not anxious, 2 = a little anxious, 3 = anxious, 4 = very anxious) (1 = not expecting rejection, 2 = expecting a little rejection, 3 = expecting rejection, 4 = expecting a lot of rejection). For each scenario, expectation scores were multiplied by anxiety scores to depict the conceptualization of anxious expectations, the product was then divided by the number of scenarios to create an average score. All items had

an alpha of .80. Race rejection sensitivity scores range from 1-16 (see Appendix D).

Institutional Identification was assessed by Inclusion of Other in the Self-Insitution (ISOSI) which has been patterned after Inclusion of Other in the Self (IOS) (Aron, Aron, & Smollan, 1992) that utilized 7 progressively overlapping circles to symbolize the closeness of the self with their institutional affiliation. Participants were asked to select one out of seven overlapping circles that best represented the extent in which they identify with their institution of higher learning. Scores range from 1-7 (see Appendix D).

Intentions to Stay in School. Student participants were asked rate the extent in which they have considered dropping out of school based on a Likert rating scale (1 = never; 2 = rarely, 3 = sometimes, 4 = frequently) (Mendoza-Denton et al., 2008).

College Persistence was assessed by a student survey first used by Nora and Cabrera (1996) which consisted of items drawn or adapted from instruments developed by to measure perceptions of prejudice-discrimination, parental encouragement, academic experiences, social integration, academic and intellectual development, and goal commitment. Items and scales were selected based on studies Pascarella and Terenzini (1980), Bean and colleagues (Bean, 1982; Bean 1990; Bean & Metzner, 1985; Bean & Vesper, 1990), and Cabrera, Castaneda, Nora, and Hengstler (1992), Nora (1987) that have documented their reliability and validity. After exploratory and confirmatory factor analyses, 36 items were retained. Only 33 of the items were used. Items were originally

measured via a Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), but were adapted for this study to range from 1 to 4. Items are worded both negatively and positively. Possible scores range from 33-132 (see Appendix D).

RESULTS

Data from the Survey Monkey web page were downloaded into an Excel spreadsheet which was analyzed by SPSS 19 statistical software (SPSS, 2010). Initially, descriptive statistics (e.g., means of frequencies, standard deviations, skewness, and kurtosis) were considered, along with the correlation of variables. Preliminary ANOVAs were conducted to explore group differences in the variables of interest (i.e., academic self-efficacy, race rejection sensitivity, performance goals, mastery goals, institutional identity, ethnic identity, intentions to stay in school). Hierarchical multiple regressions were conducted to indicate which self-regulated learning constructs (i.e., academic self-efficacy, program use, mastery goals, performance goals) and ethnic/ racial variables (i.e., race rejection sensitivity, ethnic identity-rejection sensitivity interaction) were the strongest predictors of minority first-generation college student persistence.

Descriptive Statistics

A large portion of the sample participated in TRiO SSS programs (88.9%). The remaining students participated in TD (9%) and were enrolled in Psy 113 (2%). Most participants were women (76%) and the largest ethnic group represented was European American (39%); see Table 2.

Table2

Ethnic Representation of Participants by Percentage

Ethnicity	N	%
Asian American	28	9.6
African American	34	11.6
American Indian	1	.3
Latino American	91	31.1
European American	113	38.6
Multiracial	25	8.5
Other	1	.3

Over half of the sample, 55%, of participants self-reported that they have attended 1-2 academic college terms. Approximately 38% of students indicated that they had attended 3-4 academic college terms. The remaining 6.6% of students had attended more than 4 academic terms of college. Overwhelming proportions of students were both pursuing a degree (98.6 %) and enrolled in college full time (91.1%). Most students, 45%, reported working 0-10 hours per week; followed by 36% of the sample, who indicated working between 11 and 20 hours per week. Eleven percent of students worked 21-30 per week while 8% of students were employed 31 to 50 hours per week.

Many students reported that they did not have any children (85%) and that their annual family income was less than \$28,275 (61.8%). In regards to their parents' education, 15.9% indicated that their parents had less than a high school education. Approximately 14% stated that their parents had a high school diploma. A larger proportion of students (70%) reported that their parents had some college experience or obtained an associate degree (see Table 3).

Table 3

Summary of Demographic Information on Study Participants

Sex	N	%
Female	221	75.7%
Male	70	24%
Transgender	1	.3%
Participation		
Student	256	88.9%
Support Services		
Talent Development	26	9.0%
Psy 113	6	2.1%
Enrollment Status		
Full-time	26	91.1%
Part-time	267	8.5%
College Terms Completed		
1-2	161	54.9%
3-4	112	38%
>4	20	6.6%
Pursuit of Degree		
Yes	289	98.6%
No	4	1.4%
Hours Worked Weekly		
0-10	119	45%
11-20	52	36%
21-30	30	11%
31-50	37	8%
Are you a parent?		
Yes	44	15%
No	249	85%

Table 3 Continued

Summary of Demographic Information on Study Participants

Sex	N	%
Family Income		
\$0-28,275	181	61.8%
\$28,276-42,585	66	22.4%
>\$42,586	46	15.8%
Your Parent's Education Level		
< High School	46	15.9%
High School Diploma or GED	41	14.1%
Some College or A.S. Degree	200	70%

Preliminary Analyses

Originally, there were a total of 1051 surveys initiated. Of those, 326 surveys were eliminated because they were primarily incomplete. An additional 431 surveys were removed because demographic information indicated that participants were not first-generation college students. ANOVAs were conducted on the remaining data from 293 surveys to determine if there were any significant group differences in self-regulated learning, ethnic/racial, and college persistence related variables based on minority status (see Appendix E for mean scores for survey question items).

There were no significant differences in academic self efficacy, $F(291) = 1.71, p = .19$, mastery goals, $F(291) = 1.67, p = .19$, and use of program services, $F(291) = 2.77, p = .10$, based on minority group status. However, there were significant differences in performance goals based on minority status $F(291) = 6.73, p = .01$. Non-minority students, $M = 1.96, SD = .50, d = .37$, had more performance goals than minority students, $M = 1.79, SD = .42$; however the differences were not practically meaningful. Overall, minority and non-minority first generation college students shared a variety of characteristics related to self-regulated learning constructs. First-generation college students had low academic self-efficacy, performance goals, and mastery goals. They infrequently used program services.

There were no significant differences in institutional identity, $F(291) = .152, p = .70$, and intentions to stay in school, $F(291) = 2.92, p = .09$, based on

minority status. In general, first-generation college students had low institutional identification and moderate intentions to stay in school.

There was a large and meaningful difference in ethnic identity based on minority status. Non-minority students had significantly more ethnic identity, $F(291) = 29.55, p < .001, M = 35.30, SD = 8.86, d = .86$ than their minority counterparts, $M = 29.8, SD = 8.15$. There was a moderately meaningful difference in race rejection sensitivity between non-minority and minority first-generation college students. Minority students had more rejection sensitivity- race $F(291) = 48.29, p < .001, M = 3.99, SD = 2.37, d = .65$, than non-minority students, $M = 2.21, SD = 1.73$ (see Table 4). Overall, First-generation college students had low to moderate ethnic identity and low race rejection sensitivity; yet, there were significant differences in ethnic/racial variables based on minority status (see Appendix E for mean scores of survey items). A correlation matrix of all variables of interest can be found in Table 5.

Table 4

Means and Standard Deviations of Non-Minority and Minority First-Generation College Students' Scaled Scores for Self Regulated Learning, Ethnic/Racial, and College Persistence Variables

	Non-Minority (N=114)	Minority (N = 179)
Variable	M (SD)	M (SD)
Self-Regulated Learning Variables		
Academic Self-Efficacy	35.64 (6.58)	36.70 (6.93)
Performance Goals	* 11.77 (3.00)	10.75 (3.47)
Mastery Goals	11.25 (2.54)	10.84 (2.70)
Program Use	15.61 (4.30)	14.74 (4.46)
Ethnic/Racial Variables		
Race rejection sensitivity	* 2.21 (1.73)	3.99 (2.37)
Ethnic Identity	* 35.30 (8.86)	29.680 (8.15)
College Persistence Variables		
Institutional Identity	4.04 (1.49)	3.96 (1.64)
Intentions to Stay in School	2.34 (1.50)	2.04 (1.42)

* Significant group difference $p < .05$

Table 5

Pearson Correlation Matrix among Predictors and College Persistence for All

First-Generation College Students

Scale	1	2	3	4	5	6	7	8	9
1. College Persistence	--								
2. Academic Achievement Self Efficacy	.45*	--							
3. Race rejection sensitivity	.36*	.24*	--						
4. Performance Goals	.16*	.15	-.02*	--					
5. Mastery Goals	-.08*	-.05*	-.14*	.29*	--				
6. Institutional Identity	-.40*	-.25*	-.07*	.13*	.001	--			
7. Ethnic Identity	.18*	.17*	-.22*	.27*	.18*	-.11	--		
8. Program Use	.28*	.20*	-.01*	.19*	-.06*	-.19*	.22*	--	
9. Intentions to Stay In School	.21*	.12*	.15*	.16*	-.03	-.10*	.08	-.19*	--

* $p < .05$

Group Differences in College Persistence Based on Minority Status

An ANOVA was conducted to test H1, whether or not there were significant differences in college persistence between minority and non-minority first-generation college students. The analysis demonstrated no significant differences between the two groups $F(291) = 2.18, p > .05$ (see Table 6). Overall, first-generation college students had low college persistence.

Table 6

Means and Standard Deviations of First-Generation Non-Minority and Minority College Students for Persistence

	Non-Minority (N=114)		Minority (N = 179)	
Variable	M	(SD)	M	(SD)
College Persistence	61.66	(12.04)	63.95	(13.51)

* Significant group difference

College Persistence Predicted by Self-Regulated Learning and Ethnic/Racial Variables

Forward hierarchical multiple regressions were used so that variables can be entered at each step based on theoretical importance for best predicting the outcomes (Field, 2009; Harlow, 2005; Tabachnick & Fidell, 2007) for college persistence and its related variables.. The self-regulated learning theory suggests that academic self-efficacy is the greatest contributor to self-regulated learning (Sitzmann & Ely, 2011; Van Dinther et al., 2011) and individuals that have goals are more likely to have greater academic self-efficacy. Thus the predictor variables academic self-efficacy were entered prior to mastery or performance

goals, program use, and ethnic identity or rejection sensitivity- race when predicting the dependent variable, college persistence and its related variables.

Due to individual predictors being tested, 107 participants were needed for conducting multiple regressions at significance alpha and power .05 level and .80 respectively (Field, 2009; Green, 1991; Harlow, 2005; Tabachnick & Fidell, 2007) with a medium r effect size of .13 (Rossi, 2008). Forward hierarchical multiple regressions were conducted based on data obtained from 179 minority students. The data from 114 non-minority students were filtered out from these analyses. Exploratory forward hierarchical multiple regression analyses were conducted for the males ($n = 48$) and females ($n = 127$) to determine if there would be any significant differences in effect sizes based on sex.

For testing H2, Academic self-efficacy was entered into the regression models to predict college persistence; followed by program use, and ethnic identity. Two significant regression models were produced. Step one, which only included academic self-efficacy, was significant, $F(1, 177) = 53.39, p < .001$, as was step two which added program use as a predictor of college persistence, $F(2, 176) = 32.43, p < .001$. Step three which added ethnic identity as a predictor was also significant, $F(3, 175) = 21.55, p < .001$. Academic self-efficacy in step 1, accounted for a large proportion of variance in college persistence, $R^2 = .23$. The inclusion of program use as a predictor in the second model explained an additional small proportion of variance in college persistence, $\Delta R^2 = .04$. The addition of ethnic identity as a predictor in the third model did not explain any additional proportion of variance in college persistence. Overall, model 2

represented college persistence the best, $R^2 = .27$, with academic self-efficacy as the strongest predictor, $\beta = .45$, $t = 6.85$, $p < .001$, followed by program use, $\beta = .20$, $t = 3.01$, $p < .01$, see Table 7.

Table 7

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Academic Self-Efficacy, Program Use, and Ethnic Identity with College Persistence

Model	B	SE B	β	R^2	ΔR^2
Step 1				.23***	.23***
Academic Self-Efficacy	.94	.13	.48***		
Step 2				.27**	.04**
Academic Self-Efficacy	.87	.13	.45***		
Program Use	.60	.20	.20**		
Step 3				.26	0
Academic Self-Efficacy	.89	.13	.45***		
Program Use	.61	.20	.20***		
Ethnic Identity	.04	.11	-.02		
* $p < .05$. ** $p < .01$. *** $p < .001$.					

The variables entered as predictors for multiple regressions testing H2 were different for the full, male, and female samples. The models for males, $F(2, 46) = 17.48, p < .001$ and females, $(2, 125) = 17.73, p < .001$ were sufficiently similar, and included academic self-efficacy and program use as predictors. The model for males, $R^2 = .41$, accounted for large proportions in variance in college persistence. $R^2 = .40$. Step 2 for the female sample, also accounted for a large proportion of variance in college persistence, $R^2 = .21$.

To test H3, mastery goals were entered into the regression model to predict college persistence; followed by program use, and ethnic identity. Step one, which only included program use, was significant, $F(177) = 14.21, p < .001$, as was step 2, which added ethnic identity, $F(2, 176) = 8.14, p < .001$. Mastery goals were rejected by the forward hierarchical regression for models. Program use in step 1, accounted for a medium proportion of variance in college persistence, $R^2 = .07$. The inclusion of ethnic identity as a predictor in the second step did not explain any additional proportion of variance in college persistence, $\Delta R^2 = .00$. Overall, step 1 with program use represented college persistence the best, $R^2 = .07, \beta = .27, t = 3.77, p < .001$ (see Table 8).

Table 8

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Mastery Goals, Program Use, and Ethnic Identity with College Persistence

Model	B	SE B	β	R^2	ΔR^2
Step 1				.07***	.07***
Program Use	.83	.22	.27**		
Step 2				.07	0
Program Use	.75	.22	.25**		
Ethnic Identity	.17	.12	.10		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables entered as predictors for multiple regressions testing H3 were similar for the full, male, and female samples. Ethnic identity and mastery goals were rejected by the forward hierarchical regression. Program use was the only predictor entered into the regression model for both males and females. The model for males, $F(47) = 10.21$, $p < .001$, $R^2 = .16$, accounted for a large proportion of variance in college persistence. However, the model for females explained a smaller proportion of variance in college persistence, $F(126) = 6.87$, $p < .05$, $R^2 = .04$. Overall, the pattern in the models for males and females was similar and there was no meaningful difference in effect sizes between the male and female models.

For testing H4, performance goals were entered into the regression model to predict college persistence; followed by program use, and ethnic identity. Step one, which only included performance goals, was significant, $F(177) = 5.13$, $p < .05$, as were step two which added program use as a predictor of college persistence, $F(2, 176) = 9.40$, $p < .001$, and step three which added ethnic identity

as a predictor, $F(3, 175) = 6.56, p < .001$. Performance goals in step 1, accounted for a small proportion of variance in college persistence, $R^2 = .02$. The addition of program use as a predictor in the second step explained an additional medium proportion of variance in college persistence, $\Delta R^2 = .07$. The addition of ethnic identity as a predictor in the third step did not explain any additional proportion of variance in college persistence. Overall, step 2 represented college persistence the best, $R^2 = .09$, with program use as the strongest predictor, $\beta = .26, t = 3.65, p < .001$, followed by performance goals, $\beta = .15, t = 2.08, p < .05$ (see Table 9).

Table 9

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Performance Goals, Program Use, and Ethnic Identity with College Persistence

Model	B	SE B	β	R^2	ΔR^2
Step 1				.02*	.02*
Performance Goals	.65	.29	.17*		
Step 2				.09***	.07***
Performance Goals	.58	.28	.15*		
Program Use	.79	.22	.26***		
Step 3				.09	0
Performance Goals	.52	.29	.13		
Program Use	.75	.22	.25*		
Ethnic Identity	.12	.13	.07		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables entered as predictors for multiple regressions testing H4 were different for the full, male, and female samples. Performance goals and ethnic identity, these variables were rejected from the forward hierarchical regression. As a predictor of college persistence for males, program use was the only

predictor accepted into the multiple regression analysis. Ethnic identity was rejected from the forward hierarchical regression predicting college persistence for females. The model for males which included program use, $F(47) = 10.16$, $p < .01$, $R^2 = .16$, accounted for a large proportion of variance in college persistence. However, the model for females which included performance goals and program use, $F(2, 125) = 5.84$, $p < .01$, $R^2 = .07$, explained a medium proportion of variance in college persistence. Nonetheless, there were no significant difference in proportion of variance explaining male and female college persistence, thus indicating that the multiple regression analyses were significantly similar.

To test H5, academic self-efficacy was entered into the regression model to predict college persistence, followed by program use, and race rejection sensitivity. Step 1, $F(177) = 53.89$, $p < .001$, step 2, $F(2, 176) = 32.43$, $p < .001$, and step 3, $F(3, 175) = 32.21$, $p < .001$ were all significant. Step 1, which only included academic self-efficacy as a predictor, accounted for a large proportion of variance in college persistence, $R^2 = .23$. Step 2, which added program use as a predictor, accounted for an additional small proportion of variance in college persistence, $\Delta R^2 = .03$. Lastly, Step 3 added race rejection sensitivity as a predictor and accounted for an additional medium proportion of variance in college persistence, $\Delta R^2 = .09$. Overall, the model produced from analysis of H5, which included all three variables, represented college persistence the best, accounting for a large proportion of variance in, $R^2 = .35$, with academic self-efficacy being the strongest predictor, $\beta = .36$, $t = 5.54$, $p < .001$, followed by race rejection sensitivity, $\beta = .31$, $t = 4.85$, $p < .001$, and program use, $\beta = .18$, $t = 2.93$, $p < .01$ (see Table 10).

Table 10

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Academic Self-Efficacy, Program Use, and Race rejection sensitivity with College Persistence

Model	B	SE B	B	R^2	ΔR^2
Step 1				.23***	.23***
Academic Self-Efficacy	.94	.13	.48***		
Step 2				.26**	.03**
Academic Self-Efficacy	.87	.13	.45***		
Program Use	.60	.20	.20***		
Step 3				.35***	.09***
Academic Self-Efficacy	.70	.13	.36***		
Program Use	.55	.19	.18**		
Rejection Sensitivity Race	1.76	.36	.31***		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables included as predictors for testing H5 were similar for multiple regressions conducted for the full, male, and female samples. The models for males, $F(3, 45) = 16.02$, $p < .001$, $R^2 = .48$, and females, $F(3, 124) = 18.53$, $p < .001$, $R^2 = .29$, both accounted for a large proportions of variance in college persistence.

For testing H6, mastery goals were entered into regression models to predict college persistence, followed by program use, and race rejection sensitivity. Mastery goals was eliminated from the prediction models. Two significant regression models were produced. Model 1, which only included program use, $F(177) = 14.21$, $p < .001$, accounted for a medium proportion of variance in college persistence, $R^2 = .07$. Model 2, which added rejection-sensitivity-race as a predictor, $F(2, 176) = 28.19$, $p < .001$, accounted for an additional large proportion of variance in college persistence, $\Delta R^2 = .16$. Overall, model 2, represented college persistence the best, accounting for a large

proportion of variance in, $R^2 = .23$, with race rejection sensitivity, $\beta = .41$, $t = 6.24$, $p < .001$, followed by program use being the strongest predictor, $\beta = .23$, $t = 3.50$, $p < .01$ (see Table 11).

Table 11

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Mastery Goals, Program Use, and Race rejection sensitivity with College Persistence

Model	B	SE B	β	R^2	ΔR^2
Step 1				.07***	.07***
Program Use	.83	.22	.27***		
Step 2				.23***	.16***
Program Use	.70	.20	.23**		
Race rejection sensitivity	2.35	.38	.41***		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables included as predictors for testing H6 were similar for multiple regressions conducted for the male, female, and total samples. The models for both males, $F(2, 46) = 14.87$, $p < .001$, $R^2 = .37$, and females, $F(2, 125) = 16.50$, $p < .001$, $R^2 = .20$, which included program use and race rejection sensitivity accounted for a large proportions of variance in college persistence.

To test H7, performance goals were entered into regressions models to predict college persistence, followed by program use, and race rejection sensitivity. Three significant regression models were produced. Model 1, which only included performance goals, $F(177) = 5.13$, $p < .05$, accounted for a small proportion of variance in college persistence, $R^2 = .03$. Model 2, which added program use, $F(2, 176) = 9.40$, $p < .001$, accounted for an additional small proportion of variance in college persistence, $\Delta R^2 = .07$. Model 3, which added rejection sensitivity race, $F(3, 175) = 21.30$, $p < .001$, accounted for an additional large proportion of variance in college persistence, $\Delta R^2 = .17$. Overall, model 3

represented college persistence the best, accounting for a large proportion of variance in, $R^2 = .27$, with race rejection sensitivity as the strongest predictor, $\beta = .42$, $t = 6.39$, $p < .001$, followed by program use, $\beta = .22$, $t = 3.36$, $p < .01$, and performance goals, $\beta = .16$, $t = 2.44$, $p < .05$ (see Table 12).

Table 12

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Performance Goals, Program Use, and Race rejection sensitivity with College Persistence

Model	B	SE B	β	R^2	ΔR^2
Step 1				.03*	.03*
Performance Goals	.65	.29	.17*		
Step 2				.10***	.07***
Performance Goals	.58	.28	.15***		
Program Use	.79	.22	.26***		
Step 3				.27***	.17***
Performance Goals	.62	.25	.16***		
Program Use	.66	.20	.22*		
Race rejection sensitivity	2.37	.37	.42***		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables included as predictors for testing H7 were similar for multiple regressions conducted for the full and female samples. The model for females, $F(3, 124) = 13.21$, $p < .001$, $R^2 = .22$, accounted for a large proportion of variance in college persistence. Somewhat different predictors resulted from the model for males, which also accounted for a large proportion of variance in college persistence, yet only included program use and race rejection sensitivity as predictors, $F(2, 46) = 14.87$, $p < .001$, $R^2 = .37$. Nonetheless, similar patterns were present in all three analyses.

To test H8, ethnic identification was entered into regression models, followed by race rejection sensitivity, and an ethnic identity and race rejection sensitivity interaction to predict students' institutional identification. Two models were significant. Ethnic identity was eliminated from the prediction model. Model one, which only included race rejection sensitivity, was significant, $F(177) = 5.49, p < .05$. Model two, which added the ethnic identity and race rejection sensitivity interaction was also significant, $F(2, 176) = 4.22, p < .05$. Model one accounted for a small proportion of variance in institutional identification, $R^2 = .03$. Model two did not account for any significant proportion of variance. Overall, model one represented college persistence the best, with race rejection sensitivity being a negative predictor, $\beta = -.17, t = -2.34, p < .05$ (see Table 13).

Table 13

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Ethnic Identity, Race rejection sensitivity, and Race rejection sensitivity Interaction, and Ethnic Identity with Institutional Identification

Model	B	SE B	β	R^2	ΔR^2
Step 1				.03*	.03*
Race rejection sensitivity	-.48	.22	-.16*		
Step 2				.05	.02
Race rejection sensitivity	-.12	.05	-.17*		
Ethnic Identity* Race rejection sensitivity	.01	.01	.13		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables included as predictors for testing H8 were similar for multiple regressions conducted for the male and female samples but different for the full sample. The multiple regressions for male and females only included race rejection sensitivity as predictors of institutional identity. Race rejection

sensitivity accounted for medium proportion of variance in college persistence for females, $F(126) = 8.67$, $p < .01$, $R^2 = .06$. In contrast, there was no significant predictive model for males' institutional identity, $F(47) = .01$, $p > .05$, $R^2 = -.02$. The results from the analyses based on the full sample seem to be dominated by the female pattern of data, however, effects sizes are small, and indicate that there are no notable gender differences.

For testing H9, ethnic identification was entered into regression models, followed by race rejection sensitivity and an ethnic identity and race rejection sensitivity interaction to predict intentions to stay in school. Similar to results from analyses intended to test H8, ethnic identity was eliminated from the prediction model. Two models were significant. Model one which only included race rejection sensitivity, was significant, $F(177) = 9.45$, $p < .01$. Model two, which added the ethnic identity and race rejection sensitivity interaction was also significant, $F(2, 176) = 5.00$, $p < .05$. Model one accounted for a small proportion of variance in intentions to stay in school, $R^2 = .05$. Model two did not account for any additional proportion of variance in college persistence. Overall, model one represented college persistence the best, with race rejection sensitivity being the sole predictor, $\beta = .23$, $t = 3.07$, $p < .01$ (see Table 14).

Table 14

Summary of Multiple Regression Analysis for Minority First-Generation College Students based on Ethnic Identity, Race rejection sensitivity, and Race rejection sensitivity, and Ethnic Identity Interaction with Intentions to Stay in School

Model	B	SE B	β	R^2	ΔR^2
Step 1				.05*	.05*
Race rejection sensitivity	.14	.04	.23**		
Step 2				.04	-.01
Race rejection sensitivity	.13	.04	.22**		
Ethnic Identity* Race rejection sensitivity	-.00	.01	-.06		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables included as predictors for testing H9 were similar for multiple regressions conducted for the male and female samples but different for the full sample. Only race rejection sensitivity was included in the regression as a predictor of intentions to stay in school for male and females. A medium proportion of variance in intentions to stay in school for females, $F(126) = 8.94$, $p < .01$, $R^2 = .06$. However, there was no significant model that predicted males intentions to stay in school, $F(47) = .74$, $p > .05$, $R^2 = -.01$. Again, the results from the analyses based on the full sample seem to be dominated by the female pattern of data, however, effects sizes are small, and indicate that there are no notable gender differences.

To test H10, ethnic identification was entered into regression models, followed by race rejection sensitivity, and an ethnic identity and race rejection sensitivity interaction to predict college persistence. Three significant regression models were produced. Model one which included ethnic identity was significant, $F(1, 177) = 4.74, p < .05$. As was model two which added race rejection sensitivity as predictor, $F(2, 176) = 28.02, p < .001$. Model three which added the ethnic identity and race rejection sensitivity, $F(3, 175) = 20.81, p < .001$. Model one accounted for a small proportion of variance in college persistence, accounting $R^2 = .02$. Model two accounted for an additional large proportion of variance in college persistence, $\Delta R^2 = .21$. Model three did not account for any additional proportion of variance in college persistence. Overall, model two represented college persistence the best, $R^2 = .23$, with race rejection sensitivity being the strongest predictor, $\beta = .47, t = 7.01, p < .00$, followed by ethnic identity, $\beta = .23, t = 3.46, p < .01$ (see Table 15).

Table 15

Summary of Multiple Regression Analysis for Minority First-Generation College Students Based on Ethnic Identity, Race rejection sensitivity, and Race rejection sensitivity, and Ethnic Identity Interaction with College Persistence

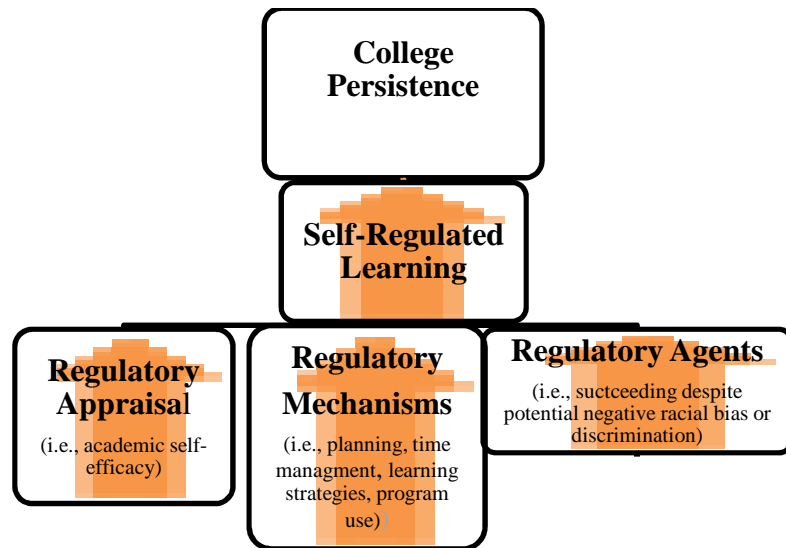
Model	B	SE B	B	R^2	ΔR^2
Step 1				.02*	.02*
Ethnic Identity	.27	.12	.16*		
Step 2				.23***	.21***
Ethnic Identity	.38	.11	.23*		
Race rejection sensitivity	2.28	.38	.47***		
Step 3				.24	.01
Ethnic Identity	.35	.11	.21**		
Race rejection sensitivity	2.61	.38	.46***		
Ethnic Identity*Race rejection sensitivity	-.09	.05	-.13		

* $p < .05$. ** $p < .01$. *** $p < .001$.

The variables included as predictors for testing H10 were different for multiple regressions conducted for the full, male and female samples. The multiple regression for males included ethnic identity and race rejection sensitivity as predictors of college persistence, while the multiple regression from females only included race rejection sensitivity as a predictor. The model for males, $F(2, 46) = 16.17$, $p < .05$, $R^2 = .30$, accounted for a large proportion of variance in intentions to stay in school. The model for females, which only included rejection sensitivity race, $F(126) = 26.58$, $p < .001$, also accounted for a large proportion of variance in college persistence. The large effect in the male data is reflected in the multiple regression conducted on the full sample.

In summary, the overall results from these analyses confirm self-regulated learning variables as important predictors of minority first-generation college students' college persistence. Specifically, the model produced from the analysis of H5, which represented college persistence the best, accounted for a large proportion of variance in, $R^2 = .35$, with academic self-efficacy being the strongest predictor, $\beta = .36$, $t = 5.54$, $p < .001$, followed by race rejection sensitivity, $\beta = .31$, $t = 4.85$, $p < .001$, and program use, $\beta = .18$, $t = 2.93$, $p < .01$ (see *Figure 2*). Furthermore, exploratory forward hierarchical multiple regression analyses conducted for male and female samples indicated that overall, there were no meaningful differences in proportion of variance in college persistence based on gender.

Figure 2. Self-regulated learning predictors of minority first-generation college students' college persistence



DISCUSSION

The purpose of this study was to explore the relationship of ethnic minority first-generation college students' self-regulated learning and ethnic/racial variables as predictors of college persistence. First, preliminary analyses of the aforementioned variables were performed to determine if there would be significant group differences between minority and non-minority first-generation college students. Subsequently, multiple regressions were conducted to analyze which self-regulated learning variables (e.g., academic self-efficacy, program use, mastery goals, performance goals) and ethnic racial variables (e.g., ethnic identity, race rejection sensitivity) would be greater contributors to predicting college persistence and other related variables (e.g., institutional identification, intentions to stay in school).

Several ANOVAs were utilized during preliminary analyses and testing of H1 to determine whether or not there were group differences between non-minority and minority first-generation college students. Irrespective to minority status, first-generation college students had similar use of program services, academic self-efficacy, mastery goals, institutional identification, and intentions to stay in school. Non-minorities had more performance goals.

First-generation college students had low academic self-efficacy, performance goals, and mastery goals. Study participants reported having low academic self-efficacy in their math, science, reading writing, computer, and social studies skills. They also believed they had limited skills in, planning, organization, and concentration with respect to their school work. In addition,

they believed that they lacked skillfulness in retaining important course information, note taking, and studying without being disturbed.

With regards to performance goals, first-generation college students generally did not express a desire to compete against their classmates for course grades and they had few worries about performing poorly in class. However, they did indicate some concern about their inability to master course material, with respect to mastery goals. Nonetheless, they had little desire to entirely master course material.

Furthermore, first-generation college students reported making low to moderate use of program services. Although they rarely sought out assistance with academic tutoring, selecting courses, applying for financial aid, and college admissions (e.g., four year institutions, graduate school, professional degree programs) and exploring career options, they did rely on staff for personal counseling. Nonetheless, they indicated that their meaningful interactions with their mentor were rare.

First-generation college students also had low to moderate ethnic identity and low race rejection sensitivity. Even though they expressed doing some exploration of their ethnic groups' history, traditions, and customs, they were unhappy with being members of their ethnic group. They reported having moderate concern about how their ethnicity affects their lives, yet they were unclear about the role their ethnicity would play in their present and future. First-generation college students did not have many concerns and expectations of potentially encountering discrimination and or racial bias throughout their daily

routines. Non-minority first-generation college students had more ethnic identity, while minority students had more race rejection sensitivity.

With respect to college persistence related variables, there were no significant differences in institutional identification, intentions to stay in school, and college persistence based on minority status. In general, first-generation college students had low institutional identification and college persistence, yet they had moderate intentions to stay in school.

Specifically, study participants reported that there was a general atmosphere of prejudice among faculty at their institutions. They believed that they have been singled out while in class and treated differently than other students. First-generation college students also indicated that they had a lack of family support with regards to their decision to pursue higher education. Furthermore, they stated that they did not have many positive relationships with campus faculty and staff. They reported having few meaningful friendships with fellow students. They did not believe that their academic experience at their institutions was satisfying and they saw little value in obtaining a college degree.

In general, non-minority and minority first-generation college students are alike in many ways; this may be explained by several characteristics shared by first-generation college students that may make them vulnerable to college attrition. However, non-minority and minority first-generation college students were significantly different in regards to performance goals, ethnic identity and race rejection sensitivity.

Several forward hierarchical multiple regressions were conducted to test H2-H10 based on data gathered from minority first-generation college students. Results from hierarchical multiple regression analyses supported H2. Academic self-efficacy was the best predictor of minority first-generation college students' persistence, followed by program use, and ethnic identity was not a significant predictor. Results from regression analyses did not support H3 and H4. Goal orientation variables, mastery goals and performance goals, respectively, were rejected by the forward hierarchical regression. Program use was the best predictor of college persistence and ethnic identity was not a significant predictor.

Results indicated that the best model for predicting college persistence for minority first-generation college students was produced by analysis of H5 which utilized academic self-efficacy, program use, and race rejection sensitivity.

Results from regression analyses did not support H6. Mastery goals were rejected by the forward hierarchical regression model. Race rejection sensitivity was the best predictor of college persistence, followed by program use. Results from regression analyses did not support H7 either. Rejection sensitivity race was the strongest predictor of college persistence, followed by program use and performance goals.

When testing H8 through H10, an ethnic identity and race rejection sensitivity interaction and ethnic identity was eliminated from models intended to predict institutional identity, intentions to stay school, and college persistence; only leaving race rejection sensitivity as a significant and meaningful predictor.

Exploratory regression analyses of hypotheses were conducted to determine if the predictive magnitude of self-regulated learning and ethnic/racial variables would differ because of gender. Results revealed that there were no notable differences in effects sizes for male and females, which indicated that there were no notable differences in the proportion variance accounted for regarding minority first-generation college students' persistence based on gender differences.

Although most researchers disagree about which self-regulated learning constructs are important in predicting educational outcomes, many of them agree that academic self-efficacy, a regulatory appraisal, is essential to this relationship (Bandura, 1977; Kanfer & Ackerman, 1989; Pintrich, 2000; Robbins, et al., 2004; Sitzmann & Ely, 2011; Zimmerman, 1990). Results from this study also highlight the importance of academic self-efficacy in predicting minority first-generation college students' persistence. As students utilize the program services and campus resources and they see academic growth, they will continue to gain academic self-efficacy and college persistence because they can see the fruits of their labor.

In addition, use of program services, a regulatory mechanism of self-regulated learning, was the second strongest predictor of minority first-generation college students' persistence. Students who utilize services such as tutoring, mentoring, counseling, and financial aid, are likely to have more college persistence when compared to students that do not use campus or program resources (Churchill & Iwai, 1981; Herndon & Hirt, 2004; Kue, 2010). However, Museus, Nichols, and Lambert (2008) found that African American students were

the most unsatisfied with their campus climate, followed by Asian and Latino American students. This discontent may be a result of negative encounters of racism that occur between students of color and college faculty and staff. College faculty and staff can support minority first-generation college students with coping with these situations by discussing how the racial climate on campus has affected them.

Nonetheless, mastery and performance goals, regulatory agents of self-regulated learning, were not strong positive predictors of college persistence for minority first-generation college students, which is contrary to previous research findings (Elliot & McGregor, 2001; Senko & Harackiewicz, 2005; Urdan & Mestas, 2006; Witkow & Fuligini, 2007).

Minority first-generation college students' goals for remaining in college may come from another source, such as "giving back" to those who have supported them. Herndon and Hirt (2004) did a qualitative investigation on "giving back" with first-generation African American college students to identify what motivated them to succeed and they found that students wanted to repay their family members for the support they have received. They also found that African American students were also motivated to become role models for younger family members by guiding them through the educational process.

Other students may have a different mindset. They might be motivated by an overall sense of social responsibility, one which stems from a remedial community service rationale. These students are inspired to use the skills they have obtained throughout their college experience as tools to assist them with

remedying historical and present experiences of discrimination by giving back to their community at large. This is a rationale supported by many of the civil rights activists of the 1960s and 1970s (Yosso et al., 2004).

With respect to ethnic and racial variables, race rejection sensitivity was the strongest predictor of minority first-generation college students' persistence. Study participants' concerns and expectations of potentially encountering racial bias or discrimination throughout their daily lives positively predicted college persistence. Due to early childhood ethnic-racial socialization by parents (Hughes et al., 2006) and continued life experiences, students of color gain a cultural knowledge that makes them highly aware of the potential aversive racism, microaggressions, discrimination, stereotypes, and prejudice they may encounter (Steele & Aronson, 1995; Wright, & Taylor, 2007). Such early preparation for bias has been intended to provide individuals from diverse backgrounds with advice and coping strategies for dealing with discrimination (Hughes et al., 2006). Having such a skill set of coping mechanisms may make them more resilient when faced with instances of discrimination and racism while on campus because they have learned "to hope for the best and prepare for the worst." A swift recovery from these negative experiences is necessary for college persistence. Students may also use these experiences as a motivational source to encourage themselves to succeed; despite the lack of support they have been provided.

Similar to studies conducted by Sellers and colleagues (Sellers, Chavous, & Cooke, 1998), Johnson and associates (Johnson & Arbona, 2006), and Castillo et al. (2006), ethnic identity was not a strong predictor of first-generation college

student persistence. People who feel disenfranchised from society or one of its institutions (e.g., education) because of the oppression and marginalization they have experienced or anticipated may be less likely to accept behaviors related to academic achievement as being valuable because they are held with high regard by members of a dominant culture that has rejected their ethnic identity (Mendoza-Denton, Downey, & Pietrzak, 2008; Ogbu & Simons, 1998; Steele, 1997).

Negative campus racial atmospheres tend to cause students of color to internalize a racialized discourse (Fernandez, 2002; Yosso et al., 2004) which leaves them with a sense of self-doubt, alienation (Dixson & Rousseau, 2005; Yosso et al., 2004), and discouragement which then makes them inclined to drop classes, change majors, and transfer schools (Yosso et al., 2004), all of which are indicators of academic disidentification (Steele, 1997). These adversities may be cause for students of color who possess a strong ethnic identity and are less acculturated as a result of their involuntary minority status to disidentify, in an attempt to maintain their self esteem and resilience (Ogbu & Simons, 1998; Steele, 1997). Such negative racial experiences are in opposition of the ideology of college as fair, color-blind, and race neutral (Yosso et al., 2004).

Conclusion

In conclusion, this study found that first-generation college students had low self-regulated learning, college persistence, ethnic identity, and race rejection sensitivity. There were no significant differences in self-regulated learning constructs and college persistence variables based on minority status, however,

non-minority first-generation college students have significantly more ethnic identity, while minority first-generation college students had more race rejection sensitivity. Academic self-efficacy, use of program services, and rejection sensitivity- race were strong predictors of minority first-generation college students' persistence.

Campus staff can increase students' academic self-efficacy by continuing to promote the use of program services and indicating its relationship to academic success. However, campus staff must bear in mind that students who have wariness of others from groups different from their own and or who have encountered prejudice, racism, and discrimination on campus might be reluctant to seek assistance from program personnel and other campus resources.

Students may not be motivated by goals of mastering course material and out performing their peers on assessments of their skills. Nonetheless they might be inspired by the opportunity to obtain their college degree despite potential negative racial bias or discrimination, the chance to right social injustices, and the prospect to give back to those who have supported them, and mentoring the youth. When students become discouraged with their college experiences, they might benefit from being reminded by staff that they can become role models for younger family members through showing them how to navigate through the educational process. Additional emphasis can also be placed on how the skills gained through persisting with college may assist them with being of greater service to their community. Students may also benefit from staff that are willing

to lend a listening ear and provide coping strategies for dealing with adverse racial interactions.

Implications for Practice

Fostering academic self-efficacy. It is recommended that educational institutions focus less on students' normative performance, which promotes negative forms of competition, and instead emphasize helping their students develop academic self-efficacy (Bong, 2003). College staff and mentors can promote academic self-efficacy in a variety of ways, such as, helping students with setting and achieving approximate goals (Bong, 2003; Schunk, 1983), integrating process goals with progress feedback (Bong, 2003; Schunk & Swartz, 1993), providing effort attributional feedback for students' progress (Bong, 2003; Schunk & Cox, 1986), and encouraging students to self-evaluate their progress (Bong, 2003; Schunk & Ertmer, 1999). In addition, academic self-efficacy can also be bolstered through verbal persuasion, enhancing vicarious experiences, assisting students with managing emotional/physiological arousal, and promoting mastery accomplishment.

Vicarious experience occurs as someone witnesses others perform threatening activities without having adverse consequences thus causing the observers to expect that they will also improve in their efforts (Bandura, 1977; Bong & Skaalvik, 2003). Witnessing an individual with qualities similar to theirs successfully perform academic activities will lead to more behavioral enhancement if there are no negative consequences that ensue (Bandura, 1977).

Through verbal persuasion, students can be suggested to believe that they can effectively cope with academic demands that have overwhelmed them in the past (Bandura, 1977; Bong & Skaalvik, 2003). People who are provided with appropriate aids and receive verbal persuasion will make greater effort (Bandura, 1977).

When staff assists their students with managing emotional/physiological arousal during stressful and arduous academic circumstances, they are also enhancing academic self-efficacy. Students that are provided methods to help them effectively cope with adverse circumstances will learn that they achieve or move closer to their goals despite their emotions and anxieties (Bandura, 1977; Usher & Pajares, 2008). Anxiety arousal threat can be decreased through modeling relaxation and learning strategies. It is further reduced once mastery has been achieved through participant modeling (Bandura, 1977).

Mastery Accomplishments are the strongest source of academic self-efficacy. Mastery accomplishments are marked by academic successes which enhance mastery experiences while repeated failure decreases them, especially if the setbacks occur early in the course of events. The subsequent establishment of strong efficacy expectations is formed from repeated success, thus causing the negative impact of infrequent failure to eventually dissipate (Bandura, 1977). Occasional failures that are eventually conquered with effort can enhance self-motivation and persistence if one realizes that they are able to triumph over the most challenging obstacles through maintaining their efforts (Bandura, 1977).

Program services and campus resource considerations. Colleges and universities provide their students with a variety of services intended to maintain student retention and assist them with planning their futures. Nonetheless, staff who are working with ethnically diverse, first-generation college students, may effective services (Sue & Sue, 2008). For example, these students may have experienced ethnic and racial socialization throughout their development that prepared them to mistrust (Hughes et al., 2006) service providers (Sue & Sue, 2008) who are from a group different from their own, because of experiences they have had in which those in helping roles have disappointed them and taken advantage of their vulnerability. Staff may be able to earn the trust of those they serve by providing them with an incentive for utilizing program services and campus resources.

University staff can give their students a checklist of various campus and program resources that they must get initialed and signed by services providers. This could serve as evidence that students are using campus and program resources. Once this checklist has been completed, students could receive a ticket that could be raffled off for a gift card that could be redeemed when they pay for gas, groceries, or textbooks. If service providers are genuine with students during interactions, it is most likely that they will return during their times of need because trust had been established.

Furthermore, many students are inspired to go to college because of the support of their families. On the other hand some family members are against their loved one's desire to attend college entirely (Lombardi, Murray, & Gerdes,

2012; McCarron & Inkelas, 2006; Ramos-Sánchez & Nichols, 2007; Reid & Moore III, 2008). Whichever the case may be, first-generation college students will need assistance with balancing their academic life and their personal life (McCarron & Inkelas, 2006). It may be difficult for students to discuss personal issues. Some cultures prefer to keep family matters within the family (Sue & Sue, 2008). For this reason, students may feel more comfortable with relying on staff to help them address their academic concerns (Wang, 2012). Occasionally asking students about how their family is doing will let them know that their staff care and students will know that someone is available to talk to about their personal issues once rapport and trust has been established.

All students, but especially those who have family members who are unsupportive of their academic goals, would likely benefit from being paired with a student mentor who has had similar difficulties and has persevered. This mentor can be a fellow student who is more advanced in their college experience or an alumnus. In addition, students who have been academically successful often feel obligated to their families and believe their victories are those of their loved ones as well (Herndon & Hirt, 2004). Campus staff may be interested in assisting their students with honoring their family members who played such a pivotal role in their achievement.

Potential strategies for addressing racial issues. Many individuals feel uncomfortable with initiating discussions about race. The best time to approach this topic is early during the initial rapport building between staff and students. Students might not have any immediate concerns about race and or ethnicity, but

they will appreciate that campus staff recognize that it could be a potential issue and that someone had the courage to bring up the difficult topic. Students who do encounter discrimination, racism, prejudice, and stereotypes on campus would then know who they can turn to when they need to discuss their experiences (Cardemil, 2003; Sue & Sue, 2008).

Staff members can also prevent themselves from inadvertently perpetuating stereotypes through suppression. With the support of norms and local authorities (Hogg & Abrams, 2007), individuals who play critical roles in education can learn to suppress their stereotypes. Due to stereotypes being pervasive, it is crucial that efforts are made to reduce the negative effects of stereotype (Grimm, Markman, Maddox, & Baldwin, 2009). In order for automatic behavior such as stereotyping to be controlled, one must have awareness of its influence, they must be motivated to control the behavior, and have enough attention to exercise their control (Bargh, Chen, & Burrows, 1996; Devine, 1989). The automaticity of stereotype formation can be suppressed when one is adequately motivated (Bargh, Chen, & Burrows, 1996; Devine, 1989; Geartner & Dovidio, 2005; Quinn, McRae, & Bodenhauser, 2007). When people are aware of their potential to make stereotypes, they can guide their social judgments to the opposite orientation of their presumed bias. People can also make efforts to forget the stereotypical information they have encountered (Kunda et al., 2002; Quinn, McRae, & Bodenhauser, 2007) Individuals can also search for signs of undesired thoughts; once these thoughts have been activated, then they can focus their attention elsewhere (Quinn, McRae, & Bodenhauser, 2007).

When one gathers individuating information regarding a person, one perceives applicable stereotypes as irrelevant to judgments about that person (Kunda, Davies, Adams, 2002) Individuals can also search for signs of undesired thoughts; once these thoughts have been activated, then one can focus their attention away from the undesired thought to an appropriate distracter (Bargh, Chen, & Burrows, 1996; Devine, 1989; Quinn, McRae, & Bodenhauser, 2007)

Steele (1997) asserts that academic settings can be modified so that students will not believe that they will encounter negative stereotypes about their groups. Staff should be aware that minority students will face stereotype threats until they gain enough information about the out-group staff's principles. It may be beneficial for staff to consistently make efforts to appropriately express to their students that they do not subscribe to negative stereotypes (Wout et al., 2009). All students can benefit from having a reaffirming relationship with an adult (Grimm et al., 2009; Steele, 1997; Walton & Cohen, 2007) which could be provided through mentoring programs, providing meaningful feedback, and reminding students of their potential (Steele, 1997).

Minorities may be protected against being perceived stereotypically if they have an in-group staff member or if they attend institutions of higher learning that have their ethnic or racial group adequately represented on campus. Having more minority staff members can help decrease students' concerns of being seen stereotypically and support an environment that is safe from stereotype threat which may not exist at less diverse institutions (Wout et al., 2009). In general, staff members can challenge students and build their self-efficacy based upon

respect for their potential, working with students while considering their skill level and not overwhelming them. It can also be helpful to share with students that they have an incremental view of human intelligence which will suggest to students they can improve academically through training, thus deflecting the most detrimental implication of the stereotype threat (Steele, 1997).

Having multiculturally competent and culturally sensitive staff can promote equitable institutions of higher learning. Both multicultural competence and cultural sensitivity are necessary for effectively preparing to serve culturally and linguistically diverse students because minorities in this nation are well on their way to soon becoming the statistical majority.

Sue and Sue (2008) explain that practitioners can help their organizations become multiculturally competent and culturally sensitive. Cultural competence is demonstrated by one's awareness, knowledge, and skills. Awareness requires educators to be sensitive to one's own cultural heritage while respecting and valuing the differences of others. Staff who have multicultural awareness know their personal biases and how they can impact culturally diverse students. They are able to become comfortable with existing differences between themselves and their client's sexual orientation, gender, race, and other sociodemographic variables, and not perceive their differences as deviance (Jones, 2008; Miranda, 2008; Ortiz, Flanagan, & Dynda, 2008, Sue & Sue, 2008).

Multiculturally competent staff are knowledgeable of various culturally diverse groups, especially those that receive their services (Miranda, 2008; Ortiz, Flanagan, & Dynda, 2008, Sue & Sue, 2008; Thompson & Henderson, 2007).

Furthermore, these staff members are skillful with their use of a wide variety of verbal and nonverbal helping responses (Jones, 2008; Miranda, 2008; Ortiz, Flanagan, & Dynda, 2008, Sue & Sue, 2008; Thompson & Henderson, 2007). They are capable of maneuvering around institutional barriers that prevent some diverse students from using educational services through using intervention skills that are appropriate for that student.

Culturally sensitivity and effective educational practices result when staff can address their personal prejudices, biases, and misinformation/lack of information regarding culturally diverse groups. Working with culturally diverse students requires accepting non-traditional helping roles in order to implement effective interventions on multiple levels. These roles include advising and being a change agent, potentially working outside of the office, focusing on modifying environmental factors as opposed to the student, and understanding that the student experiences problems, rather than the student being the problem (Sue & Sue, 2008).

Limitations

According to Shadish, Campbell, and Stanley (2006), the limitations of any research must be understood within the context of the existing threats to the internal and external validity of the study. Regarding external validity, even though the sample from this study was obtained from a national representation of first-generation college students, the sample was primarily comprised of Latin American female students. Although, this study's sample actually represents a nationwide trend (NCES, 2008), the findings are less generalizable to other

ethnic/racial minority student groups. Similarly, the analyses and results were limited to minority student groups and the extent to which the results may be generalized to non-minority students was not the focus of this study and therefore remains unexamined. Other limitations include the lack of either an experimental or time series design. Due to the use of a correlational design, future findings will only be able to explain relationships and predictions of outcomes. Therefore, causal relationships cannot be presumed. Because inferences regarding cause and effect relationships are not possible, internal validity is not relevant to the study results. Since the participants self-report responses to the survey measures and instruments were gathered using an online format, the actual behaviors reflecting college persistence and self-regulated learning or associated with racial and ethnic identity and race rejection sensitivity were not able to be determined.

Moreover, although student service programs such SSS and TD receive federal and state grant funds to support their services, there are no established standards about how they should implement services. Consequently, differences in program implementation may account for results. Most measures maintained adequate reliability despite the modification of their Likert scaling, however the reliability for items measuring mastery goals decreased, thus drawing into question the reliability of those results, and whether or not the results would be consistent over time.

Future Directions

As colleges and universities increase their efforts to recruit and retain a diverse student body, they should keep in mind the important developmental

aspects of self-regulated learning, program use, and rejection sensitivity. As students progress throughout their educational development, standards and expectations for course work tend to increase, they may require more supports from program and campus resources, and possibly be exposed to more opportunities to encounter racial conflict on campus while they seek assistance. It would be beneficial to conduct a cross sectional study or collect data from minority first-generation college students at several different time points through a longitudinal design, to evaluate how their self-regulated learning and anxiety about negative interactions with out-group members changes over time.

Nauman, Bandalos, and Gutkin (2003) believe that first-generation college students have to rely more on goal orientation and self-efficacy to help them overcome the many barriers they will face when pursuing a college education. However, Greene, McClenney, and Marti (2008) report that minority students, particularly African Americans, often find that they have an Effort-Outcome Gap (EOG). Even though they work harder than Latino and White students to achieve educational goals, they have to overcompensate for their college under-preparedness which sets them back significantly. They found that a lack of college preparedness among African American and Latino American first-generation college students was the greatest predictor of college attrition. College preparedness should be included in future studies aimed at predicting the academic success of culturally diverse first-generation college students.

Attempts to over sample other first-generation college students who are members of ethnic and racial minority groups other than Latin American that have

a large number of men so that differences in academic self-efficacy, program use, and race rejection sensitivity can be explored based on ethnicity/race and gender. It would be unwise to assume that all racial minority students and both genders have similar self-regulated learning and concerns about encountering potential racial discrimination. Significant differences between ethnic and racial groups along these variables would suggest that they would each have different predictive magnitude for first-generation college student's self-identified racial/ethnic group.

Furthermore, future investigations should include the goal of altruism (i.e., supporting one's family, being a role model, community service) as a self-regulated learning agent predictor to evaluate whether or not it will account for a meaningful proportion of variance in first-generation college students' persistence when included with academic self-efficacy, program use, and race rejection sensitivity.

Appendix A

Flyer to Solicit for Student Participation

Researchers from Department of Psychology at the University of Rhode Island are interested in how students' beliefs in their academic abilities, study skills, and ethnic pride predict college persistence, the ability to persevere and obtain a college degree.

We are seeking for individuals who are:

- Are at least 18 years of age
- Currently participating in:
 - Student Support Services at _____
 - Or currently participating in Talent Development (TD) or enrolled in General Psychology (Psy 113) at URI
- Study participants will complete a 15 minute online survey
<http://www.surveymonkey.com>

For More Information: Contact John Moore T: (626) 253-8329 E: john_moore@my.uri.edu or Paul Bueno de Mesquita T: (401) 874-9037 E: pauldem@uri.edu

Appendix B

Informed Consent Template- Anonymous Research
(Anonymous meaning no one on the research team
will ever have access to any identifiers.)

The University of Rhode Island
Department of Psychology
Chafee Hall
10 Chafee Road
Kingston, RI 02881

Title of Project: Self-Regulated Learning and Ethnic/Racial Identity Variables as
Predictors of College Persistence among Minority and Majority First-Generation
College Students

TEAR OFF AND KEEP THIS FORM FOR YOURSELF

Dear Participant,

You have been invited to take part in the research project described below. If you
have any questions, please feel free to contact John S. Moore III, Graduate
Student at (626) 253-8329 or Paul Bueno de Mesquita, PhD, sponsoring faculty
member at (401)-874-9037.

The purpose of this study is to explore the predictive relationship of self-regulated
learning and ethnic/racial identity variables on college persistence. Responses to
these items will be collected and stored online through an encrypted website. It
will then be gathered and stored on a password protected personal computer,
printed, and secured in a locked storage cabinet in the sponsoring faculty
member's office in Chafee 426.

YOU MUST BE AT LEAST 18 YEARS OLD to be in this research project.

If you decide to take part in this study, your participation will involve completing
an online survey pertaining to the relationship between your achievement goals,
belief in your academic skills, feelings regarding your culture, and college
persistence.

The possible risks or discomforts of the study are minimal.

Although there are no direct benefits of the study, your answers will help increase
the knowledge regarding first-generation college students.

Your part in this study is anonymous. That means that your answers to all
questions are private. No one else can know if you participated in this study and

no one else can find out what your answers were. Scientific reports will be based on group data and will not identify you or any individual as being in this project.

The decision to participate in this research project is up to you. You do not have to participate and you can refuse to answer any question.

Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any injury, you should write or call John S. Moore III and Dr. Paul Bueno de Mesquita at the University of Rhode Island at (401) 874-9037.

If you have other concerns about this study or if you have questions about your rights as a research participant, you may contact the University of Rhode Island's Vice President for Research, 70 Lower College Road, Suite 2, URI, Kingston, RI, (401) 874-4328.

You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction. Your filling out the survey implies your consent to participate in this study.

If these questions are upsetting and you want to talk, please use the phone number below: 401-874-2288.

Thank you,
John S. Moore III
School Psychology, MA
john_moore@my.uri.edu

Paul Bueno de Mesquita
School Psychology, PhD
paulbdem@uri.edu

1. I am at least 18 years of age
Yes

2. By clicking, "I agree", I am attesting that I have read and understand the information above and I freely give my consent to participate in this research study.

To exit the survey at any point, click on "Exit Survey" at the top of the page.
I Agree

PLEASE PRINT AND DATE THE FORM AND KEEP IT FOR YOUR
RECORD

APPENDIX C
Demographic Information

1. I participate or I am in enrolled in:

Student Support Services

Talent Development

General Psychology Psy113

2. My sex/gender is:

Male

Female

Transgender

3. My age is:

4. How many years have you been enrolled in courses at this institution?

First year

Second year

Third year

Fourth year

Other please specify

5. How many academic terms (semesters, trimesters, or quarters) have you been consistently enrolled at this institution?

1-2

3-4

5-6

7-8

More

6. Are you pursuing a degree?

Yes

No

7. I am a:

Part-time student (enrolled in less than 12 semester credits a semester)

Full-time student (enrolled in 12 or more semester credits)

8. Please specify how many hours are you employed per week ____

9. Are you a parent?

Yes

No

10. My ethnicity is:

Asian or Pacific Islander (people having origins in any of the original peoples of the Middle East, the Far East, South East Asia, The Indian Subcontinent, China, Japan, or Korea).

Black, African American, Afro Caribbean, or of African descent (persons having origins in any of the Black racial groups in Africa)

American Indian, Native American, or Alaskan Native (person having origins in any of the original peoples of North America and who maintain cultural identification through tribal affiliation or community recognition)

Hispanic or Latino American (persons of Mexican, Puerto Rican, Cuban, Dominican, Central or South American, or Spanish Culture, regardless of race)

European Americans, Not Hispanic origin, White, or Caucasian (person having origins in any of the original people of Europe)

Multiracial

Other (please specify)

11. If you are multiracial, please specify the ethnicity of your mother and father.

Mother

Father

12. Please specify the primary languages spoken by your parents or guardian if different from mother or father:

Mother

Father

Guardian

13. My family annual income is:

\$0-13,963

\$13,964-18,735

\$23,506-28,275

\$28,276-33,045

\$33,046-37,815

\$37,816-42,585

\$42,586-47,355

\$47,356 and higher

14. The highest education level completed by either parent or guardian is:

Grade school

Middle school

GED

Some high school

High school diploma

Some college

Graduate or Professional degree

Appendix D

College Persistence

Please answer the following questions regarding your campus experience and college persistence.

Response key:

Rate yourself on the following: 1(strongly disagree), 2(disagree), 3 (agree), and 4 (strongly disagree)

1. I have observed discriminatory words, behaviors or gestures directed at minority students at this institution.
2. I feel there is a general atmosphere of prejudice among students.
3. I have encountered racism while attending this institution.
4. I have heard negative words about people of my own race or ethnicity while attending classes.
5. I feel there is a general atmosphere of prejudice among faculty at this institution.
6. I have been singled out in class and treated differently than other students.
7. My family approves of my attending this institution.
8. My family encourages me to continue attending this institution.
9. My parents encourage me to get a college degree.
10. Most of the faculty members I have contact with are willing to spend time outside of class to discuss issues of interest and importance to students.
11. Most of the faculty I have contact with are genuinely interested in teaching.
12. Most of the faculty members I have had contact with are genuinely outstanding or superior teachers.
13. Academic advisors or counselors at this institution are genuinely concerned about students.
14. Most faculty I have contact with are genuinely interested in teaching.
15. I am satisfied with the opportunity to meet and interact informally with academic advisors, academic staff, and or faculty members.
16. My nonclassroom interactions with faculty, academic advisors, and college administrators have had a positive influence on my intellectual growth and interest and career goals.
17. Since enrolling at this institution, I have developed a close personal relationship with at least one faculty member, academic advisor, or academic staff member.
18. It has been easy for me to meet and make friends with other students at this institution.
19. Since enrolling at this institution, I have developed close personal relationships with other students.
20. The student friendships I have developed at this institution have had a positive influence on my personal growth and interest in ideas.

21. My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes and values.
22. Very few of the students I know at this institution would be willing to listen to me and help me if I had a personal problem.
23. The student friendships I have developed have been personally satisfying.
24. I am satisfied with my social life at this institution.
25. Since coming to this institution, I have made friends with students quite different from me (e.g., different race or ethnic background, different religious beliefs, family-background).
26. I spend time socializing with friends on campus.
27. I am satisfied with the extent of my intellectual development since attending this institution.
28. My academic experience has had a positive influence on my intellectual growth and interest in ideas.
29. I am satisfied with my academic experience at this institution.
30. It is important for me to get a college degree.
31. It is important for me to finish my program of studies.
32. I am confident I made the right decision in choosing this institution.
33. I feel I belong at this institution.

Multidimensional Scales of Perceived Self-Efficacy (MSPE)

Please answer the following questions based upon belief in your ability to attain academic achievement and regulate your learning behaviors.

Response key:

Rate yourself in the following abilities: 1 (not well at all), 2 (not well), 3 (well), and, 4 (very well)

Academic Achievement

1. How well can you learn general mathematics?
2. How well can you learn algebra?
3. How well can you learn science?
4. How well can you learn biology?
5. How well can you learn reading and writing language arts?
6. How well can you learn to use computers?
7. How well can you learn social studies?
8. How well can you learn English grammar?

Self-Regulated Learning

9. How well can you finish homework assignments by deadlines?
10. How well can you study when there are other interesting things to do?
11. How well can you concentrate on school subjects?
12. How well can you take class notes of class instruction?
13. How well can you use the library to get information for class assignments?
14. How well can you plan your school work?
15. How well can you organize your school work?
16. How well can you remember information presented in class and textbooks?
17. How well can you arrange to study without distractions?
18. How well can you motivate yourself to do school work?
19. How well can you participate in class discussion?

Race-Based Rejection Sensitivity Questionnaire (RSQ - Race)

Each of the items below describes new situations that people encounter. Some people are concerned about these new situations and others are not. Please imagine yourself in each situation and circle the number that best indicates how you would feel.

Response key:

Rate your concern for each scenario: 1 (not at all concerned), 2 (unconcerned), 3 (concerned) and, 4 (very concerned)

Rate the likelihood of your expectation for each scenario: 1 (highly unlikely), 2 (unlikely), 3 (likely), and 4 (highly likely).

1. Imagine that you are in class one day, and the professor asks a particularly difficult question. A few people, including yourself, raise their hands to answer the question.
 - a) How concerned/anxious would you be that the professor might not choose you because of your race/ethnicity?
 - b) I would expect that the professor might not choose me because of my race/ethnicity.
2. Imagine you have just completed a job interview over the telephone. You are in good spirits because the interviewer seemed enthusiastic about your application. Several days later you complete a second interview in person. Your interviewer informs you that they will let you know about their decision soon.
 - a) How concerned/anxious would you be that you might not be hired because of your race/ethnicity?
 - b) I would expect that I might not be hired because of my race/ethnicity. very unlikely very likely.
3. It's late at night and you are driving down a country road you're not familiar with. Luckily, there is a 24-hour 7-11 just ahead, so you stop there and head up to the counter to ask the young woman for directions.
 - a) How concerned/anxious would you be that she might not help you because of your race/ethnicity?
 - b) I would expect that the woman might not help me because of my race/ethnicity.
4. Imagine that a new school counselor is selecting students for a summer scholarship fund that you really want. The counselor has only one scholarship left and you are one of several students that is eligible for this scholarship.
 - a) How concerned/anxious would you be that the counselor might not choose you because of your race/ethnicity?
 - b) I would expect that he might not select me because of my race/ethnicity.

5. Imagine you have just finished shopping, and you are leaving the store carrying several bags. It's closing time, and several people are filing out of the store at once. Suddenly, the alarm begins to sound, and a security guard comes over to investigate.
 - a) How concerned/anxious would you be that the guard might stop you because of your race/ethnicity?
 - b) I would expect that the guard might stop me because of my race/ethnicity.
6. Imagine you are riding the bus one day. The bus is full except for two seats, one of which is next to you. As the bus comes to the next stop, you notice a woman getting on the bus.
 - a) How concerned/anxious would you be that she might avoid sitting next to you because of your race/ethnicity?
 - b) I would expect that she might not sit next to me because of my race/ethnicity.
7. Imagine that you are in a restaurant, trying to get the attention of your waitress. A lot of other people are trying to get her attention as well.
 - a) How concerned/anxious would you be that she might not attend you right away because of your race/ethnicity?
 - b) I would expect that she might not attend to me right away because of my race/ethnicity.
8. Imagine you're driving down the street, and there is a police barricade just ahead. The police officers are randomly pulling people over to check drivers' licenses and registrations.
 - a) How concerned/anxious would you be that an officer might pull you over because of your race/ethnicity?
 - b) I would expect that the officers might stop me because of my race/ethnicity.
9. Imagine that it's the second day of your new class. The teacher assigned a writing sample yesterday and today the teacher announces that she has finished correcting the papers. You wait for your paper to be returned.
 - a) How concerned/anxious would you be that you might receive a lower grade than others because of your race/ethnicity?
 - b) I would expect to receive a lower grade than others because of my race/ethnicity.
10. Imagine that you are standing in line for the ATM machine, and you notice the woman at the machine glances back while she's getting her money.
 - a) How concerned/anxious would you be that she might be suspicious of you because of your race/ethnicity?
 - b) I would expect that she might be suspicious of me because of my race/ethnicity.

Achievement Goals Questionnaire

Please answer the following questions regarding your perceptions of classroom goal and learning attitudes.

Response key:

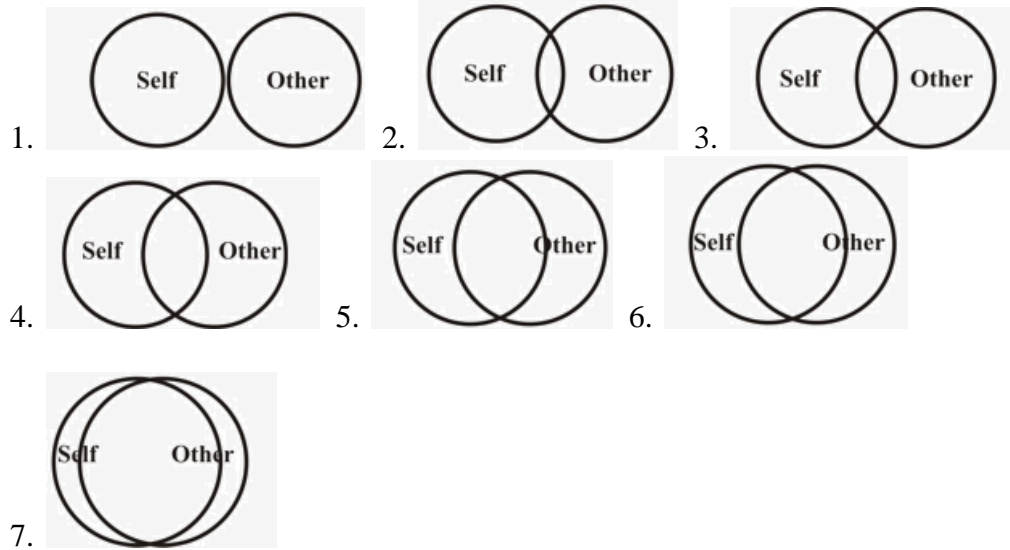
Rate yourself on the following: 1 (not at all true), 2(not true) 3 (true), and 4 (very true).

1. It is important for me to do better than the other students.
2. It is important for me to do well compared to others in class.
3. My goal in class is to get a better grade than most of the other students.
4. I worry that I may not learn all that I possibly could in class.
5. Sometimes I'm afraid that I may not understand the class content as thoroughly as I'd like.
6. I am often concerned that I may not learn in class.
7. I want to learn as much as possible in class.
8. It is important for me to understand course content as thoroughly as possible.
9. I desire to completely master the material presented in classes.
10. I just want to avoid doing poorly in class.
11. My goal in class is to avoid doing poorly.
12. My fear of doing poorly in class is often what motivates me.

Institutional Identification

The circle labeled "Other" represents your college/university.

Please select a picture from below that best describes your current identification with your college/university. Greater identification with your college/university is indicated by how much overlap there is between the "Self" circle and the "Other" circle.



Which picture from above best describes your current identification with your college/university?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ 6
- ☐ 7

Multigroup Ethnic Identity Measure (MEIM)

In this country, people come from many different countries and cultures and there are many different words to describe different backgrounds or ethnic groups that people come from. Some examples of the names of ethnic groups are Hispanic or Latino, Black or African American, Caucasian or White, Italian American and many others. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it.

Response key:

Rate yourself in the following abilities: 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree).

1. I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs.
2. I am active in organizations or social groups that include mostly members of my own ethnic group.
3. I have a clear sense of my ethnic background and what it means for me.
4. I think a lot about how my life will be affected by my ethnic group membership.
5. I am happy that I am a member of the group I belong to.
6. I am not very clear about the role of my ethnicity in my life.
7. I really have not spent time trying to learn more about the culture and history of my ethnic group.
8. I have a strong sense of belonging to my own ethnic group.
9. I understand pretty well what my ethnic group membership means to me, in terms of how to relate to my own group and other groups.
10. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.
11. I have a lot of pride in my ethnic group and its accomplishments.
12. I participate in cultural practices of my own group, such as special food, music, or customs.
13. I feel a strong attachment towards my own group.
14. I feel good about my cultural background.

Intentions to Stay In School

Rate your agreement with the statement “I have considered dropping out of the [college/university] before earning a degree.”

Response key:

Rate yourself on the following: 1 (strongly disagree), 2 (disagree), 3 (agree), and 4 (strongly agree).

Program Use

Please answer the following questions regarding your use of program and campus resources.

Response key:

Rate yourself on the following: 1 (never), 2(rarely), 3 (sometimes), and 4 (frequently)

1. I receive academic tutoring.
2. I receive advice and assistance with course selection.
3. I receive assistance with applying for and seeking sources of financial aid (loans, grants, scholarships).
4. I receive assistance with applying for admission to four year colleges, graduate programs, or professional programs.
5. I have meaningful interactions with my mentor.
6. I receive information about career options.
7. I receive personal counseling.

Appendix E

Questionnaire Item Mean Scores for First-Generation College Students College Persistence

	Minority Student Mean (N = 179)	Non-Minority Student Mean (N = 114)	Total Mean (N = 293)
1. I have observed discriminatory words, behaviors or gestures directed at minority students at this institution.	2.53	2.36	2.46
2. I feel there is a general atmosphere of prejudice among students.	2.49	2.12	2.35
3. I have encountered racism while attending this institution.	2.66	2.51	2.60
4. I have heard negative words about people of my own race or ethnicity while attending classes.	2.42	2.15	2.32
5. I feel there is a general atmosphere of prejudice among faculty at this institution.	1.99	1.65	1.86
6. I have been singled out in class and treated differently than other students.	1.83	1.83	1.83
7. My family approves of my attending this institution.	1.53	1.39	1.47
8. My family encourages me to continue attending this institution.	1.58	1.42	1.52
9. My parents encourage me to get a college degree.	1.28	1.43	1.34

10. Most of the faculty members I have contact with are willing to spend time outside of class to discuss issues of interest and importance to students.	1.78	1.60	1.71
11. Most of the faculty I have contact with are genuinely interested in teaching.	1.65	1.56	1.61
12. Most of the faculty members I have had contact with are genuinely outstanding or superior teachers.	1.78	1.71	1.75
13. Academic advisors or counselors at this institution are genuinely concerned about students.	1.73	1.59	1.67
14. Most faculty I have contact with are genuinely interested in teaching.	1.61	1.66	1.63
15. I am satisfied with the opportunity to meet and interact informally with academic advisors, academic staff, and or faculty members.	1.77	1.67	1.73
16. My nonclassroom interactions with faculty, academic advisors, and college administrators have had a positive influence on my intellectual growth and interest and career goals.	1.89	1.84	1.87
17. Since enrolling at this institution, I have developed a close personal relationship with at least one faculty member, academic advisor, or academic staff member.	1.78	1.73	1.76

18. It has been easy for me to meet and make friends with other students at this institution.	2.10	2.10	2.10
19. Since enrolling at this institution, I have developed close personal relationships with other students.	1.99	1.96	1.98
20. The student friendships I have developed at this institution have had a positive influence on my personal growth and interest in ideas.	1.87	1.89	1.88
21. My interpersonal relationships with other students have had a positive influence on my personal growth, attitudes and values.	1.93	1.88	1.91
22. Very few of the students I know at this institution would be willing to listen to me and help me if I had a personal problem.	2.65	2.35	2.53
23. The student friendships I have developed have been personally satisfying.	1.94	1.94	1.94
24. I am satisfied with my social life at this institution.	2.17	2.18	2.18
25. Since coming to this institution, I have made friends with students quite different from me (e.g., different race or ethnic background, different religious beliefs, family-background).	1.96	2.09	2.01
26. I spend time socializing with friends on campus.	2.41	2.49	2.44
27. I am satisfied with the extent of my intellectual development since attending this institution.	1.81	1.85	1.83

28. My academic experience has had a positive influence on my intellectual growth and interest in ideas.	1.66	1.69	1.67
29. I am satisfied with my academic experience at this institution.	1.83	1.82	1.83
30. It is important for me to get a college degree.	1.13	1.18	1.15
31. It is important for me to finish my program of studies.	1.14	1.18	1.15
32. I am confident I made the right decision in choosing this institution.	1.72	1.52	1.64
33. I feel I belong at this institution.	1.87	1.71	1.81

Questionnaire Item Mean Scores for First-Generation College Students
Academic Self-Efficacy

	Minority Student Mean (N = 179)	Non- Minority Student Mean (N = 114)	Total Mean (N = 293)
Academic Achievement Self-Efficacy			
1. How well can you learn general mathematics?	1.91	1.99	1.94
2. How well can you learn algebra?	1.97	2.06	2.01
3. How well can you learn science?	2.18	2.04	2.13
4. How well can you learn biology?	2.17	2.13	2.15
5. How well can you learn reading and writing language arts?	1.78	1.59	1.70
6. How well can you learn to use computers?	1.59	1.61	1.60
7. How well can you learn social studies?	1.82	1.91	1.86
8. How well can you learn English grammar?	1.96	1.70	1.86
Academic Achievement Self-Efficacy Total	15.30	14.99	15.18
Self-Regulated Learning Self-Efficacy			
1. How well can you finish homework assignments by deadlines?	1.64	1.52	1.59
2. How well can you study when there are other interesting things to do?	2.36	2.33	2.35

3. How well can you concentrate on school subjects?	2.02	1.93	1.98
4. How well can you take class notes of class instruction?	1.82	1.82	1.82
5. How well can you use the library to get information for class assignments?	2.02	1.84	1.95
6. How well can you plan your school work?	1.89	1.92	1.90
7. How well can you organize your school work?	1.82	1.80	1.81
8. How well can you remember information presented in class and textbooks?	2.15	2.08	2.12
9. How well can you arrange to study without distractions?	1.78	1.73	1.76
10. How well can you motivate yourself to do school work?	1.93	1.93	1.93
11. How well can you participate in class discussion?	2.07	1.89	2.00
Self-Regulated Learning Self-Efficacy Total	21.40	20.65	21.11
Academic Self-Efficacy Composite Total Score	36.70	35.64	36.29

Questionnaire Item Mean Scores for First-Generation College Students
Achievement Goal Orientations

	Minority Student Mean (N = 179)	Non-Minority Student Mean (N = 114)	Total Mean (N = 293)
Performance Approach			
1. It is important for me to do better than the other students.	1.92	1.96	1.93
2. It is important for me to do well compared to others in class.	1.76	1.81	1.78
3. My goal in class is to get a better grade than most of the other students.	2.15	2.17	2.15
Performance Approach Total	5.77	5.93	5.83
Performance Avoidance			
4. I just want to avoid doing poorly in class.	1.48	1.92	1.65
5. My goal in class is to avoid doing poorly.	1.58	1.84	1.68
6. My fear of doing poorly in class is often what motivates me.	1.96	2.10	2.01
Performance Avoidance Total	4.98	5.84	5.31
Performance Total	10.75	11.77	11.15
Mastery Avoidance			

Mastery Avoidance			
7. I worry that I may not learn all that I possibly could in class.	2.23	2.31	2.26
8. Sometimes I'm afraid that I may not understand the class content as thoroughly as I'd like.	1.85	2.02	1.92
9. I am often concerned that I may not learn in class.	2.51	2.54	2.52
Mastery Avoidance Total	6.54	6.86	6.66
Mastery Approach			
10. I want to learn as much as possible in class.	1.30	1.29	1.29
11. It is important for me to understand course content as thoroughly as possible.	1.43	1.40	1.42
12. I desire to completely master the material presented in classes.	1.62	1.69	1.65
Mastery Approach Total	4.30	4.39	4.33
Mastery Total	10.84	11.25	11.00

Questionnaire Item Mean Scores for First-Generation College Students
Multiethnic Identity Measure

	Minority Student Mean (N = 179)	Non-Minority Student Mean (N = 114)	Total Mean (N = 293)
1. I have spent time trying to find out more about my own ethnic group, such as its history, traditions, and customs.	2.28	2.88	2.51
2. I am active in organizations or social groups that include mostly members of my own ethnic group.	2.77	2.88	2.81
3. I have a clear sense of my ethnic background and what it means for me.	1.98	2.26	2.09
4. I think a lot about how my life will be affected by my ethnic group membership.	2.54	3.08	2.75
5. I am happy that I am a member of the group I belong to.	1.71	1.96	1.81
6. I am not very clear about the role of my ethnicity in my life.	2.11	2.19	2.14
7. I really have not spent time trying to learn more about the culture and history of my ethnic group.	2.26	2.58	2.39
8. I have a strong sense of belonging to my own ethnic group.	2.15	2.35	2.23
9. I understand pretty well what my ethnic group membership means to me, in terms of how to relate to my own group and other groups.	1.95	2.34	2.10

10. In order to learn more about my ethnic background, I have often talked to other people about my ethnic group.	2.37	3.17	2.68
11. I have a lot of pride in my ethnic group and its accomplishments.	1.89	2.43	2.10
12. I participate in cultural practices of my own group, such as special food, music, or customs.	2.15	2.63	2.34
13. I feel a strong attachment towards my own group.	2.09	2.64	2.30
14. I feel good about my cultural background.	1.74	2.13	1.89
Ethnic Identity Total	29.80	35.30	31.94

Questionnaire Item Mean Scores for First-Generation College Students
Program Use

	Minority Student Mean (N = 179)	Non-Minority Student Mean (N = 114)	Total Mean (N = 293)
1. I receive academic tutoring.	2.19	2.51	2.32
2. I receive advice and assistance with course selection.	2.02	2.09	2.04
3. I receive assistance with applying for and seeking sources of financial aid (loans, grants, scholarships).	2.17	2.32	2.23
4. I receive assistance with applying for admission to four year colleges, graduate programs, or professional programs.	2.16	2.33	2.22
5. I have meaningful interactions with my mentor.	1.97	1.86	1.92
6. I receive information about career options.	1.88	2.11	1.97
7. I receive personal counseling.	2.45	2.46	2.45
Program Use Total	14.74	15.61	15.08

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